Λογαριθμοτεχνία,

OR

The Construction, and vse
of the *Logarithmeticall*
TABLES;

*By the helpe of which Mutipli-
cation is performed by Addition,
Diuision by substraction, the extra-
ction of the square root by biparti-
tion, & of the cube root by triparti-
tion, &c. Finally the Golden Rule,
and the resolution of Triangles, as
well right lined, as sphericall by
Addition and Substraction.*

First published in the *French
Tongue* by Edmund Wingate
an English Gentleman,

AND

Now translated into English by
the Author himselfe.

Ἐὰν ἦς φιλομαθὴς, ἔση πολυμαθὴς.

TO THE MOST
High , and Puissant Prince *Iean Baptiste,* Gaston de France, the *Kings only brother, Duke of Aniou, &c.*

MOst Illustrious Prince) the good successe I had a few monethes agoe, in presenting vnto your Highnes a Treatise , that contayned the vses of a new Rule of Proportion, hath made mee aduenture to present you with this also, which contaynes the ground, & construction thereof, and besides the demonstration of all that is therein handled: True

A 2   it

it is, I feared to seeme ath to appeare so often before your Highnesse, yet (considering the quality of the subject) I thought this no lesse yours then the former, they hauing inseparable dependancy one vpon another: Wherefore I promise my selfe this hope, that although I cannot now auoyde the censure of rashnesse, yet haue I this comfort, that herein I haue assayed to doe that, whereunto I was wholy obliged. Your Highnesse may excuse the meanenesse of the present, For great Princes, such as your Highnesse cannot expect from their inferiours, presents answerable to the greatnesse of their quality, but the Law that should not admit presents of any other sort, would both depriue them of the

ac-

acknowledgement due vnto
them, and their Subjects of the
contentment they receiue to
make appeare the ardent deuo-
tion they haue to render them
seruice, which I hane enforced
my selfe to doe with the grea-
test affection, and submission,
that is possible for him to per-
forme, who desires for euer to
remayne

Your Highnesse in

all seruice and

loyalty denoted,

EDM. WINGATE.
A 3

The Preface.

For as much as amongst many inuentions, that concerne the Mathematicks, none can be found comparable to this of the Logarithmes, the worthy labours of those Learned men which haue endeuoured to aduance it, are to be prized accordingly : These are, first Iohn Neper, *Baron of* Merchiston *in* Scotland, *who hath due right to challenge the first inuention of the Logarithmes in generall*, Then Master Henry Brigges, *Professor of Geometrie in the* Vniuersitie *of* Oxford, *to whom is duely attributed the inuention, and fabrique of that kind*

of

The Preface.

of *Logarithmes*, of which we treat in this insuing *Discourse*, and which are farre more expedite, then those of *Master* Nepers invention; Lastly, *Master* Edmund Gunter, *Professor of Astronomie in Gresham Colledge in* London, who hath taken great paines in calculating of a *Table* contayning the *Logarithmes* of the *Sines*, and *Tangents* of all the degrees and minutes of the *Quadrant*. Now this *Treatise* following, is nothing else but an orderly Compendium as well of the construction, as also of the ioynt and severall *vses* of *Master* Brigges his first Chiliad of *Logarithmes*, and *Master* Gunters said *Table*. Concerning which you shall further observe, that the three first *Chapters* therof are nothing, but an *Abridgement* of that, which *Master* Brigs

A 4   de-

deliuers in his Booke (intitled A-
Arithmatica Logarithmetica)
wherein I produce no other Tables
or Examples, then those which bee
there vseth; not onely because they
are aptest to expresse the subiected
matter, but likewise to the end
that the examples of this Tract
might bee the more obuious, and
familiar to such as are verst in
that learned Worke of his.

The occasion of composing this
Treatise was this: In Anno 1624.
I making a iourney into France,
had the happinesse to bee the first
transporter of the vse of these in-
uentions into those parts; where as
soone as I was arriued, diuers Ma-
thematicians of the chiefest note
in Paris, resorting to my chamber,
and I communicating vnto them
first the manifold vses of the Lo-
garithmes described vpon Master
Gun-

Gunters Croſſe-ſtaffe, *they earnestly importuned mee to expreſſe them by ſome ſhort Tractate in the* French Tongue, *which when I had compoſed, and prefixed thereunto a Preface declaring the whole Hiſtory of the rare and exquiſite Inuention of Logarithmes, (viz. ſuch as you find at the beginning of this) as alſo of Maſter* Gunters rare inuention *for proiecting the Logarithmes in plane, I was aduiſed by Maſter* Alleaume *the Kings chiefe Inginer to dedicate my Booke to* Monſieur *the Kings brother, whoſe fauourable admittance thereof, encouraged mee not long after to preſent him with this other Treatiſe alſo, which contayning the grounds and demonstrations of all that was handled in the other Booke, he was alſo pleaſed graciouſly to accept. Thus ex-*

A 5   *pecting*

pecting no lesse fauour at home, then I haue already receiued amongst strangers. I haue aduentured to expose this short Discourse to the publike view.

THE

THE CONSTRVCTI-on And Vse Of the Logarithme-ticall *Tables.*

Chap. I.

The definition and nature of Logarithmes in generall.

Ogarithmes are numbers; which being fitted to proportionall Numbers retayne alwayes equall differences:

So the proportionall numbers beeing, 1. 2. 4. 8. 16. 32. 64. 128. 256. 512. 1024. &c. You may appoint vnto them for Logarithmes the nū-bers,

bers, subscribed vnder the letters A B. C. D. or any other at pleasure; so that the differences of those Logarithmes bee alwayes equall, when the numbers, vnto which they are fitted, are proportionall.

	A	B	C	D
1	1	5	5	35
2	2	6	8	32
4	3	7	11	29
8	4	8	14	26
16	5	9	17	23
32	6	10	20	20
64	7	11	23	17
128	8	12	26	14
256	9	13	29	11
512	10	14	32	8
1024	11	15	35	5
	log.	*log.*	*log.*	*log.*

Proportionall numbers.

Now

Now to the end that you may the more easily vnderstand the nature of these Logarithmes, obserue this proposition following.

When of foure numbers giuen, the second exceedes the first as much as the fourth exceeds the third, the summe of the first, and the fourth is equall to the summe of the second and the third.

Example, these numbers 8. 14. and 17. and 23. beeing giuen, the summe of 14. and 17. beeing added together is equall to the summe of 8. and 23.

From hence followes this Corollary:

When foure numbers are proportionall, the summe of the Logarithmes of the meane num-

numbers is equall to the summe
of the Logarithmes of the ex-
tremes.

So the foure proportionall
numbers being, 2.8.16.and 64.
And the Logarithme of 2. (in
the Columne of Log.subscribed
vnder the letter C.) being 8.
The Log. of 8.14. The Log. of
16.17. And the Log. of 64.23.
I say the summe of 14. and 17.
The Log. of the meane num-
bers is equall to the summe of 8
and 23.The Log of the extreme
numbers; as it appeares by the
example of the Proposition a-
fore-going.

Chap. II.

The nature of the Logarith-
                                    mes

*mes spoken of in the Trea
tise following.*

THe numbers con-
tinually propor-
tionall, which
Master *Brigs* hath
proposed to him-
selfe, are 1.10.100.1000. &c. to
which numbers hee hath af-
signed for Logarithmes, 0000
&c. 10000. &c. 20000. &c.
30000. &c. that is to say,
To 1. the Log. 0000.&c. To 10
10000.&c. To 100. 20000. &c.
To 1000.30000.&c. And after-
wards sheweth the way how to
make the meane Logarithmes,
viz. of the numbers placed be-
twixt 1. and 10. betwixt 10.and
100. betwixt 100. and 1000.&c.
Some of which Log. you shall
find in these Tables following.

In

I.

A	B
I	00000000
10	10000000
100	20000000
1000	30000000
10000	40000000
100000	50000000
1000000	60000000
10000000	70000000

&c.

2.

C	D
1	00000000
2	03010299
4	06020599
8	09030899
16	12041199
32	15051499
64	18061799
128	21072099
256	24082399
512	27092699
1024	30102999

&c.

In the first of which you may observe in the Col. marked by the letter A. a ranke of numbers continually proportionall from 1. And over against each number his Log. in the other columne signed by the letter B.

In the second Table in the Columne marked with the letter C. There is another ranke of numbers, which are also continually proportionall from 1. And just against each number his Log. in the other Columne signed by the letter D. calculated according to the reason, and proportion of the Logarithmes in the first Table: So that supposing the Log. of 1. to be 0000. &c. and the Log of 10 to be 10000. &c. The Log. of 2. will be found 0301 0299. &c.

Now hauing put the Log. of 1. to

1. to be oooo, &c. From hence (I say) necessarily follow these Corrollaries.

1 In Multiplication the sum of the Logarithmes of the Multiplicand, and of the Multiplicator is equall to the Log. of the product.

For as much as in euery Multiplication, there are foure proportional numbers, *viz.* as 1 is to the Multiplicand, so is the Multiplicator to the Product; and the Log. of 1. being o. it is manifest by the Corrollary of the last Chap. that the summe of the Logarithmes of the Multiplicand, and Multiplicator is equall to the Log. of the Product. For example, 16. beeing giuen to bee multiplyed by 4. The Log. of 16. in the second Columne of the last Table is

12041199. and the Log of 4. is 06020599. The summe of these Log. is 18061798. which is the Log. of 64. The product of the numbers giuen.

2 In Diuision the summe of the Log. of the Diuisor & of the Quotient is equall to the Log. of the diuidend; for as the Diuisor is to 1. so is the divid. to the quotient. For exãple, 64. being propounded to bee diuided by 4. the Quotient will be 16. and the summe of the Log. of 4. and 16. is equall to the Log. of 64. As appeares by the example of the last Corollary.

3. In any ranke of numbers continually proportionall from 1. the Log. of any one of them being diuided by the number of the intervalles, which are contayned betwixt 1. and the same

same number, the Quotient will giue you the Log. of the Root, *viz.* of the number, which in the same ranke is placed neerest 1.

So in the ranke of the proportionall numbers of the last Table, 2. being the Root, 4. the Square, 8. the Cube, 16. the Biquadrate, 32. The fift power, 64 The sixt power, &c. I say the Log. of any one of them being giuen, and diuided by the number of the interualles, which are comprehended betwixt 1. and the number, vnto which the said Log. appertaynes; you shall finde in the Quotient the Log. Of the Root, 2. For example in the same ranke the Log. of 4. the Square, *viz.* 0602059. beeing giuen, I demand the Log. of 2. the Roote; the

the Intervalles betwixt 1. and
the said square are 2. and ther-
fore diuiding 06020599. The
Log. giuen by two, I find in the
Quotient 03010299. the Log.
of 2. required. In like manner,
the Log. of 8. the Cube, *viz.*
09030899. being giuen, I de-
mand the Log. of 2. the Roote ;
the Intervalles betwixt 1. and
that Cube are three, wherefore
diuiding 09030899. by 3. I find
in the Quotient 03010299. the
Log. required. So 30102999
the Log. of 1024. (the tenth
power being giuen, and the In-
tervalles betwixt 1. and the
said number being 10. I diuide
the same Log. by 10. Which
done, the Quotient hath
03010299. the Log. demanded.
The truth of this Corrollary is
euidently demonstrated by the
<div align="right">de-</div>

definition of Logarithmes, which beeing fitted to proportionall numbers, retayne alwayes equall differences.

Chap. III.

The Genesis, or fabrique of the Logarithmes treated of in the ensuing Discourse.

He Log. of 1. being put 0000. &c. the Log. of 10. 1000 &c. the Log. of 100. 20000. &c. In the next place it will bee requisite to shew the way how to make the Logarithmes of the meanenumbers, *viz.* Of 2.3.4. &c. which are situate betwixt 1. and 10. Of 11

12.

12.13.&c. which are placed be-
twixt 10. and 100. and so of the
rest, which wee intend to ex-
plaine in the resolution of
these Problemes following.

Prob. I.

*The number 10. beeing giuen to
find as many meane proportio-
nalls betwixt it, and 1. as shall
be required.*

Hauing placed after the
number 10. towards the
right hand a great com-
pany of Cyphers (to the end
the operation may bee made
the more exact) extract the
square Root thereof, this done,
extract the square Root of that
Root, and then the square
Root of the second Root, and
so

so consequently of the rest: Hauing thus done, so many square Roots as there are so extracted, so many meane proportionalls be there betwixt 10. and 1.

In the first Columne of the ensuing Table, you shall find 54 square Roots so extracted ; so that the nūber marked by the letter A.(which is written thus,
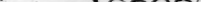
$$\frac{162277660168379331998 \, 9}{1000000000000000000000000} \Big)$$

$$\frac{354}{000}\Big)$$ is the square Roote of 10. The number B. (which is written

$$\frac{7782794100;8;2280}{1000000000000000000}$$

thus, $\frac{}{}$ 119730413 $\Big)$ is the square Root $\frac{}{000000000}\Big)$ of the number A. The number C. is the square Roote of the number B. &c. which 54. square Rootes are so many meane proportionals betwixt 10. and 1.   After

After the same manner may you finde out as m.ny meane proportionals, as you please, betwixt any other number giuen, and 1. which kind of operation is of great vse in the construction of Logarithmeticall Tables, as shall appeare hereafter.

Prob. II.

The Logarithme of 10. being giuen to finde the Log. of all the meane proportionalls contayned betwixt 10. and 1.

THis Probleme may easily bee resolued by the third Corrollary of the last Chapter, for the number A. being the square Root of 10. deuiding the Log. of 10. by 2. You

B   haue

haue the Log. of the said num-
ber A. In ke manner diuiding
the Log. of the number A. by
2. You haue the Log. of the
number B. and so proceeding
in the same order, the Log. of
all the meane proportionalls
betwixt 10. and 1. may easily
be found out.

For example, in the second
Columne of the Table afore-
going, 100000. &c. being assig-
ned the Logar. of 10. halfe of
it, *viz.* the number D. is the
Log. of the number A. and E.
the Log. of the number B. and
so consequently of the rest.

Prob. III.

A number being giuen, which be-
  ing lesse then 2. and grea-
  ter then 1. comes so neere vn-

  to

to 1. *that it hath* 15. *Cyphers towards the left hand before the significant figures of his Numerator ; to find his proper Logarithme.*

Before wee come to the resolution of this Probleme, this proposition must bee observed.

When a nūb. which being lesse then 2. & greater then 1. comes so neere to 1. that it hath fifteen Cyphers towards the left hand before the significant figures of his Numerator, the value of the significant figures of his Numerator is double the value of the significant figures of the Numerator of his square Roote.

For example, in the lower end of the Table aforegoing, the numb. G. (which is written thus,

B 2   1

$\dfrac{\text{оооеоооооооооо}51127659}{1\text{ооооооооооооооооооооо}}$

$\dfrac{728012947}{\text{ооооеоооо}}$) beeing propoun-
ded , which be-
ing leſſe then 2. and yet
greater then 1. hath fifteene
Cyphers towards the left hand
before the ſignificant figures of
his Numerator; I ſay, 51127659
&c. the ſignificant figures of his
numer. are double to 25563829
&c. the ſignificant figures of the
num. of the number H. the
ſquare Root of the ſaid num-
ber G.

From hence follow theſe cor-
rollaries.

1. The ſignificant figures of
the num. of a number of this
kind, and the ſignificant figures
of the num. of his ſquare Roote
leſſen themſelues like then

Lo-

Logarithmes, that is to say, by halfes.

For example, as the Log. K. ½ halfe the Log. I. so 25563829 &c. the sig. fig. of the num. of the number H. are the halfe of 51127659. &c. the significant figures of the num. of the number G.

2. Any two numbers of this kind being giuen, their Logarithmes, and the significant figures of their Numerators are proportionall.

Example, the numbers G. & H. being giuen; I say, as 51127659 &c. the significant figures of the num. of the number G. are to 25563829.&c. the significant figures of the num. of the number H. So is I. the Log. of the said number G. to K. the Log. of the said number H. In like

B 3   man-

manner the numbers G. and L.
being giuen ; as § 11 27659. &c.
is to 12781914. &c. So the Log.
I. is to the Log. M.

And this Rule holds true in
any other number of this kind,
though it bee not one of the
meane proportionalls betwixt
10. and 1.   For the significant
figures of the num. of any such
number beare the same pro-
portion to his proper Log. that
the sig. fig. of any of the num-
bers marked by the letters G.
H. or L. beare to his.

These things being thus clee-
red, it is manifest, that a num-
ber of this kird beeing giuen,
the Log. thereof may be found
by the Golden Rule : for,

As the significant figures of
the num. of any one of the
numbers, signed with the let-
ters

ters G. H, or L. are to his Log.
So are the significant figures of
the num. of the number giuen,
to the Log. of the same num-
ber.

EXAMPLE, the Number
00000000000000000010 being
—————————————————— giuen
10000000000000000000
I demand the Log. thereof; I
say, as 5112765 9. &c. the signi-
ficant figures of the num. of
the number G. are to the Log.
L. So are 10. the significant fi-
gures of the num. of the numb.
giuen to 43429448. &c. the
Log. required.

PROB. IV.

The number 2. being giuen to find
the Log. thereof.

YOu may find the Log. of 2
or of any number whatso-

B 4   euer

euer, if first you search by the
first Probleme of this Chapter,
so many meane proportionalls
betwixt the same number, and
1. till the meane proportionall,
which comes neerest 1. hath fif-
teene Cyphers placed before
the significant figures of his
Numerator ; for then by the
last Probleme you may find the
Log. of that meane proportio-
nall, and lastly , by often dou-
bling, and redoubling that Log.
according to the number of the
meane proportionals found, at
last you will fall vpon the Log.
of the number giuen : But be-
cause this way of making Log.
in some numbers would be ve-
ry troublesome , by reason of
the great company of square
Rootes, which it should bee ne-
cessary to extract, by this exam-
ple

ple following wee will shew you
an easier. The Number 2.
therefore beeing giuen, I de-
mand the Log. thereof.

1. Multiply 2. by it selfe, the
product is 4. then multiply the
product 4. by 2. thereof comes
8. and so you must proceed, still
multiplying the products by 2.
the number giuen, till at last
you happen vpon a product,
which hath in the first place to
wards the left hand the figure
of 1. and in the second place a
Cypher. *viz.* in this example,
the product 1024.

2. The product 1024. beeing
found, you must divide it by a
number, which consisting of as
many places as the said pro-
duct, hath in the first place to-
wardes the left hand 1. and in
the other places towards the

B 5   right

right hand nothing but Cyphers; *viz.* by 1000. this done, the quotient will bee

$$\text{I}\frac{024}{1000}.$$

3. Search by the 1. Problem of this chapter, so many meane proport. betwixt the quotient

$$\text{I}\frac{024}{1000}.$$

and 1. till you find one, that hath fifteene Cyphers before the significant figures of his Numerator; which in this example, after you haue extracted 47. square Roots will be found to bee

$$\text{I}\frac{000000000000000}{100000000000000}$$

16851605705394977

00000000000000000.

4. This meane proportioall thus found, search the Log. thereof, which by the last Probleme you shall find to be 0000

00000000000731855936900623

00068.   5. This

5. This Log. being doubled
will produce the Log. of the
meane proportionall, next a-
boue the laſt meane propor-
tionall found; and ſo by dou-
bling ſucceſsiuely the Log. of
each meane proportionall one
after another, (*viz.* ſeuen and
forty times in all) at laſt you
ſhall happen vpon the Log. of
the num- $1\frac{024}{1000}$) which is 0001
ber 02999. &c.

6. If to the Log. of the
quo- $1\frac{024}{1000}$ you adde theLog.
tient of the Diviſor,
1000. which is 30000000. &c.
the ſumme is 30102999. &c. *viz.*
the Log. of 1024. the dividend
by the 2. Corolary of the laſt
Chapter.

7. Laſtly, if you divide the
Log. of 1024. by 10. thereof
will

will come 0301 0299. &c. Which
by the 3. Corolary of the laſt
Chapter , is the Log. of 2. re-
quired.

Having found the Log. of 2.
you may eaſily finde the Log. of
5.   For dividing 10. by 2. the
quotient will bee 5. But the
diſtance of the Logarithmes of
the Diviſor, and the quotient is
equall to the Log. of the divi-
dend by the ſecond Corolary
of the laſt Chapter, and there-
fore if you ſubſtract 0301 0299.
the Log. of 2. from 1 0000
000. the Log. of 10. the re-
mainder 0 6989700. is the Log.
of 5.

Now beſide the Log. of 5.
which the like facilitie may. be
found of any other num-
bers made by the Multi-
plication or diviſion of theſe
three

three numbers 2. 5. and 10. *viz.*
of the numbers 4. 8. 16. 32. 64.
&c. Of the numbers 25. 125. 625
&c. Of the numbers 20. 50. 100
200. &c. following the directi-
on given you in the Corollaries
of the last Chapter.

Furthermore in the same sort
as wee haue found out the Log.
of 2. so may the Log. of any o-
ther number whatsoeuer bee
knowne. For example, the
number 6. being propounded,
I demand the Log. thereof. To
doe this first multiply 6. by it
selfe, thereof comes 36. Then
multiply the product 36. by 6.
which will produce 216. and so
still multiplying the product by
6. the number given, at last af-
ter eight such Multiplications
you shall find the product 1007
7696. which is the ninth power
of

of the Root 6. this done, divi-
ding 10077696. by 10000000.
the quo-   0077696 then ha-
tient is I 10000000 ving foûd
46. meane proportionals be-
twixt the said quotient, and 1.
that which comes neerest 1. is

I 00000000090000001099^{8}593
───────────────────────────
   1000000 00000000000800000
458815571866 whose Log. you
0000000000 0 shall finde by
the Golden Rule to be 000000
000000000004776628447860
80304. which beeing doubled
six and forty times will giue you
00033612. &c. the Log. of the
quo-   0077696 to which Lo-
tient I 10000000 garithme if
you adde 70000000. &c. The
Log. of the Divisor 10000000.
the summe is 70033612. &c. the
Log. of the product 10077696.
                              Last

Laſtly, the Log.70033612. &c.
beeing divided by 9. (becauſe
10077696. is the ninth power
of 6. the number given) giues
you in the quotient 07781512.
&c. the Logarithme of 6. re-
quired.

And thus much ſhall ſuffice
to haue ſpoken ſummarily con-
cerning the Fabrique, and *Con-
ſtruction of the Logarithmeticall
Tables*, wee having no deſire
to calculate them anew, but
onely to ſhew the manner and
way, how they may be calcula-
ted.

Maſter *Brigs* about ſixe or ſe-
ven yeeres ago publiſhed a *Lo-
garithmeticall Table*, contayning
the Logarithmes of all the
numbers from 1. to a 1000. And
this is the firſt of thoſe Tables
placed at the end of this Diſ-
courſe,

course called more particular-
ly, *The Table of Numbers*, con-
cerning which these Rules fol-
lowing are to be obserued:

1. That it hath 2, columnes,
the first whereof marked by the
letter N. contaynes all the
numbers from 1. to a 1000. &
in the second Columne, intitled
by the particle (*Logarith.*) is
placed just against each num-
ber his proper Log. Betwixt the
log. are also put other nū. which
are the differences of the Log.

2. That the Logarithmes of
the numbers comprehended
betwixt 1. and 10. haue in the
first place towards the left hand
a Cypher, those of the numbers
from 10. to 100. the figure of
1. and those of the numbers
from 100. to a 1000. the figure
of 2. &c. This first figure of the
Log.

Log. wee call with Master *Brigs*
the *Characteristique*,whose office
is to denote of how many pla-
ces any number consisteth; for
the *characteristique* of enery
Log. is alwayes an Vnity lesse,
then the number of places,
whereof the number (vnto
which the same Log. apper-
taines) is composed. So the
Charact. of 0301 0299. the Log.
of 2 is 0. Of 1301 0299. the
Log. of 20, is 1. Of 2301 0299.
the Log. of 200 is 2. Of 3301
0299. the Log. of 2000. is 3. &c.

3. That although the Log.
which wee haue put in the same
Table are composed of eight
figures; In most operations it
will bee onely necessary to vse
the first six figures thereof to-
wards the left hand , as shall
farther appeare hereafter.

About

About the ſame time Maſter *Gunnter* calculated another *Logarithmeticall Table* , contayning the Logarithmes of the Sines and Tangents of all the degrees , and minutes of the Quadrant, which we call hereafter the *Table of Sines and Tangents*, and this is that, which wee haue placed after the ſaid Table of Numbers.

Chap. IV.
The vſe of the Logarithmeticall Tables in finding out the Log. of any number, and the number of any Log. propounded.

Hus farre concerning the conſtruction of the *Logarithmeticall Tables*; now

now come wee to the vſe of
them, which is twofold:

1. To finde the Log. of any
number, or the number of any
Log. giuen.

2. To reſolue divers neceſſa-
rie Problemes in Arithmeticke
and Geometry.

As for the firſt you ſhall find
it explained in theſe Problemes
following.

PROB. I.

A whole number beeing giuen,
which exceeds not 1000. to find
the Log. thereof.

SEarch in the firſt Columne
of the Table of Numbers,
the number giuen : this
done juſt againſt it in the ſe-
cond Columne you ſhall finde
his

his Log. So the Log. of 20.
will bee found 1301029. the
Log. of 100. 2000000. &c.

PROB. II.

A broken number beeing given,
which exceeds not 1000. to find
his Logarithme.

Find by the Probleme going
afore the Log. of the whole
parts of the number given,
then to know the number, that
ought to be added to the Log.
found in respect of the fraction.
Obſerve the difference betwixt
the ſaid Log. found, and that
which followes, this done, the
proportion will bee as follow-
eth.

As the Denominator of the
fraction is to the Numer. ſo the
                              diffe-

difference betwixt the Log.
found, and that which followes,
is to another number, which
being added to the said Log.
found, the summe is the Log.
required.

Example: This broken num.
6 beeing giuen, I de-
$\frac{6}{12}$ mand the Log. there-
of. The Log. of the whole parts,
viz. of 100. by the Probleme
going before is 200000. & the
difference betwixt that Log. &
200432. the Log. that followes,
is 432. I say then,

As 12. is to 6. so is 432. to
216. which being added to 2000
00 produceth 200218. the Log.
required.

To resolue this Probleme and
the like with facilitie, I referre
you to the 8. proposition of the
6. Chapter of Master *Gunters*
first

firſt Booke of the *Groſſe-ſtaffe.*
By which the fourth number
216. wil be eaſily found out.

Prob. III.

A Log. being giuen, whoſe Cha-
racteriſtique is 0. 1. or 2. to find
the number, of which it is the
proper Log.

SEarch the Log. giuen in the
ſecond columne of the Ta-
ble of Numbers: this done,
iuſt againſt it you ſhall finde the
number required.

Example, 130102. being the
Log. giuen, hauing found the
ſaid Log. in the ſecond Col. in-
tituled *(Logarith.)* ouer againſt
it in the firſt Columne (marked
by the letter N.) I finde 20. the
number, to which the ſame
L-

Logarithme appertaynes.

But when in the said Table
of Numbers you cannot pre-
cisely find the Log. giuen, that
Log. is the Log. of a broken
number; now to find his proper
number doe as followeth.

Search the Log. which comes
neerest, and is lesse then the
Log. giuen; then take the num-
ber that answers to that Log.
found for the whole parts of the
broken number you looke for:
this done, to know the fraction
of the said broken number, doe
thus; Substract the Log. found
from the Log. giuen ; this ha-
uing done, the number that re-
maynes is the Numerator, and
the difference betwixt the Log.
found, and that which followes
is the Dominator of the fracti-
on required.

Ex-

Example , the Log. 220521
beeing given, I demand the
number, to which it belongs.
The Log. which comes neerest,
and is leſſe then 220521. is the
Logar. 220411 ouer againſt
which I find 160. which are the
whole parts of the broken
number I looke for; then ſub-
ſtracting 220411. the Logar.
found from 220521 the Loga-
rithme given, the num. that re-
maines is 110 I cóclude therfore

160 $\dfrac{110}{270}$ is the Number
to which 220521
the Log. propounded apper-
taines.

Prob. IV.

*Any number betwixt 1000. and
1000000. beeing given, to
find*

finde the Logarithme thereof.

1. FInd by the first Probleme of this Chapter, the Log. of the three first figures of the number giuen towards the left hand.

2. In stead of the *Characteristique* of the Log. found place another, which shal fit the number giuen, *viz.* which is lesse by 1. then the number of places, whereof the number giuen is composed.

3. Obserue the difference betwixt the Log. found. & that which followes, and likewise take notice of the figures, which remayne to the number giuen towards the right hand, besides the three first figures towards the left hand; this done, the proportion will be such.

C   As

As a nnmber which hath in the firſt place towardes the left hand the figure 1. and towards the right hand as many Cyphers as there bee figures remayning to the number giuen towards the right hand , is to the ſame figures ſo remayning.

So the difference betwixt the Log. found, and that which followes is to another number, which beeing added to the ſaid Log. found will giue you the Log. required.

Example, 160232. being given, I demand the Log. thereof. The Log. of 160. the firſt three figures of the number giuen, is 22041199. Whoſe *Charact.* being 2. in place thereof (becauſe the number propounded conſiſts of ſixe places) I put 5. this done,

done, the Log found becomes
52041199. Now the difference
betwixt 22041199. the Logar.
found, and that which followes
is 27058. likewise the figures
that remayne to 160232. the
nnmber giuen besides the three
first figures towardes the left
hand are 232. I say then,

As 1000. is to 232.

So is 27058. to 6277.
which being added to 52041199
the Log. found; the summe is
52047476. the Log. of 160232
demanded: In like manner, if
the number 160004. were pro-
pounded, his Log. would bee
found 52041307. for,

As 1000. is to 004.

So is 27058. to 108.
which being added to 52041199
the sume is 52041307. the Log.
required.

C 2　　PROB.

PROB. V.

*A Log.being giuen,whose Charact.
is 3. 4 or 5. to know the num-
ber, to which it appertaines.*

LOoke ('in the Table of
Numbers amongst the Lo-
garithmes, which are con-
tayned betwixt those of 100. &
1000.) for the figures, whereof
the Log. giuen is composed to-
wards the right hand besides
his *Charact.* rejecting also the
Characleristiques of the Loga-
rirhmes of the said Table;then
take the number that answeres
to the Log. found for the three
first figures of the number you
looke for: lastly , if the Logar.
propounded, hath for his *Cha-
ract.* 3. place towards the right
                                hand

hand after thofe three firſt fi-
gures found one Cypher; if the
Charact. bee 4. place two Cy-
phers; and if it bee 5. place
three Cyphers; this done, you
haue the number demanded.

Example, the Log. 52041199.
beeing giuen , I demand the
number , to which it belongs;
hauing found in the Table of
numbers the figures 2041199.
juſt againſt them I finde the
number 160. which are the three
firſt figures of the number I
looke for; then (becauſe the
Charact. of the Logar. propoun-
ded is 5.) I place three Cyphers
towards the right hand after
160. the number found: this
done, the ſaid number 160. be-
comes 160000. *viz.* the num-
ber vnto which the Log. pro-
pounded appertaines. In like

C 3   man-

manner the proper number of the Log. 42041199. is 16000. and the number of the Log. 32041199. is 1600.

But if the figures beſides the *Charact.* cannot bee found pre-ciſely in the Table of numbers, the Logar. propounded ¸is the Log. of a number, which beſides the three firſt figures towardes the left hand is compoſed of ſome other ſignificant figures towards the right hand: now to find the true number of a Lo-garithme of this kinde , follow this direction.

1. Search as before in the Table of numbers betwixt the Log. of 100.and 1000. the Log which comes neereſt , and is leſſe then the Logar. propoun-ded , neglecting the *Charact.* of the Logarithme giuen , as alſo choſe

those of the Table.

2. Take the number that an-
swers to the Logarithme found
for the three first figures of the
number required.

3. Substract the figures which
the Log. found hath towardes
the right hand besides his *Cha-
ract.* from the figures of the Lo-
garithme giuen, that so you
may haue the difference be-
twixt them.

4. Obserue the differeuce
betwixt the Log. found, and
that which followes; this done,
the proportion will be thus.

As the difference betwixt the
Log. found, and that which
followes; is to the differece be-
twixt the said Log. found & the
Log. giuen.

So 1000. is to another num-
ber, which ought alwayes to

C 4   con-

confist of three figures ; where-
of, if the *Charact.* of the Log
giuen bee 5. you muft take all,
but if it be 4. take two towards
the left hand ; laftly, if it bee
3. take onely one towards the
left hand.

5. The figure, or figures thus
taken, place towardes the right
hand after the number that an-
fweres to the Log. found ; this
done, you haue the number you
looke for: Now if befides the
figures thus taken there bee o-
thers which remayne towardes
the right hand , they are the
numerator of a fraction, which
belongs to the number found,
which hath for his dehomina-
tor a numb. compofed of 1. & as
many ciphers towards the right
hand, as there are figures left.

Example, the Log. 5204747
Being

Being propounded, I demand
the number to which it apper-
taynes. Hauing rejected the
Charact. of the Log. giuen, as
also thofe of the Table, the
Logar. which in the fame Table
being leffe then the faid Logar.
giuen comes neereft it is 2041
199. ouer againft which I finde
the number 160. which are the
three firft figures of the num-
ber lookt for towardes the left
hand: Now hauing fubftracted
2041199. (the figures of the
Logar. found befides the *Cha-
ract.*) from 2047476. (the fi-
gures of the Logar. giuen be-
fides the *Charact.*) the diffe-
rence betwixt them is 6277. &
the diffrence betwixt 22041199
the Log found, and that which
followes is 27058. I fay then,

As 27058. is to 6277.

C 5   So

So is 1000. to 232.
which (becaufe the *Charact.* of
the Log. propounded is 5.) be-
ing placed towardes the right
hand after 160. the number be-
fore found, giues 160232. the
number required : But if the
Logarithme giuen were 4204
7476. his number would bee
$$16023 \frac{2}{10} \; 32047476.$$ and if it were
the
numb. belonging to it would be
$$1602 \frac{32}{100} \; 307.$$ So the Log. 51041
being giuen,
his number will bee found 1600
04. For,

As 27058. is to 108.
So is 1000. to 004.

PROB. VI.

An Arke or Angle of any number
    of degrees being giuen to finde
                            the

the Logarithme of the right Sine or Tangent of the same.

LOoke at the toppe of the Pages of the table of Sines and Tangents, the number of the degrees of the arke or angle giuen (*viz.* at the top of the left Pages if the number of the degrres exceed not 45. but otherwise at the top of the right Pages) and then the minutes (if there bee any) in the Columne marked by the letter M. this done, juſt ouer against in the Columne intitled by the particle (Sin.) you ſhall find the Logar. of the Sine, and likewiſe in the Columne ſubſcribed vnder the particle *(Tang.)* you ſhall haue the Tangent of the arke or angle propounded.

So

So the Logar. of the Sine of an arke or angle of 23. degrees 30. minutes, is 96006997. and the Log. of the Tangent of the fame arke is 96383019. In like manner the Log. of the Sine of 66. degrees 30. minutes is 99. 623977. and the Log. of his Tangent is 103616981. and fo of the reft.

Note, that when the arke or angle propounded exceeds 90. degrees, inftead of it you muft looke his complement to 180. degrees, according to that which is practifed in the vfe of the ordinary Tables of Sines, Tangents and Secants.

PROB. VII.

The Logarithme of a right Sine, or Tangent being giuen; to find
his

his correspondent Arke or Angle.

SEarch in the same Table of sines and tangents the Log. giuen, *viz.* in the Columnes marke d by the particle (Sin.) if the **Logar.** propounded bee t he **Log.** of a Sine , or in those subscribed vnder the particle (Tang.) if it bee the **Logar.** of a Tangent ; this done , in the top of the page after the Title (Sine or Tangent)you shall find the degrees ; and just against the **Logar.** found , in the Collumne marked by the letter M. you shall haue the minutes of the arke or angle required.

So 23. degrees 30. minutes is the correspondent arke to 9 60 06,97. the **Log.** of the Sine of the same arke , and likewise to

to 96383019. the Log. of his Tangent.

Obſerue, that although the numbers which you ſhall finde in the Table of Sines, and Tangents are properly the Logarithmes of the right Sines, and Tangents of the degrees of the quadrant, as is aforeſaid; yet hereafter when wee haue any occaſion to mention them, for breuity ſake wee will call them Sines and Tangents without any other addition. So 96006997 is the Sine, and 96383019. the Tangent of 23. degrees 30. minutes.

Againe, inſtead of the termes (Sine or Tangent of the complement) wee will vſe with Maſter *Gunter* the words (Coſine, and Cotangent) ſo 96006997 is the Coſine, and 96383019. the

the Cotangent of **66.** degrees
30. minutes. In like manner
99623977. is the Cofine, and
103616981. is the cotangent of
23. d. 30.m.

Laftly, when you cannot find
precifely the Sine or Tangent
you looke for, take inftead ther-
of that which comes neereft
it.

CHAP. V.

The vfe of the Logarithme-
ticall Tables in Arith-
metique.

Auing in the laft
Chapter fhewed
the firft vfe of the
Logarithmeticall-
tables, now followes the other,
which

which concernes the resolution
of diuers Problemes in Arith-
metique and Geometry : Now
as touching the vse of them in
Arithmetique, you shall finde it
expreſt in theſe Problemes fol-
lowing.

Prob. I.

A number being giuen to multiply
by another number, to finde the
Product.

Adde the Logarith. of the
multiplicand to the Log.
of the Multiplicator : this
done, the ſumme is the Log. of
the product.

Example, 30. being giuen to
multiply by 25. I demand the
product ; the Log. of 30. by
the firſt Probleme of the laſt

Chapter is 147712. and the Logar. of 25. is 139794., the summe of these Log. is 287506. which by the third Probleme of the said Chapter, is found to be the Log. of 750. the product required.

Multiplicand	30	147712
Multiplicator	25	139794
Product	750	287506

PROB. II.

A number being giuen to bee diui-
ded by another number; to find
the Quotient.

SVbtract the Logar. of the Diuisor from the Logar. of the diuidend, the number that remaynes is the Logar. of the Quotient.

So 750. beeing giuen to be diui-

diuided by 25. the Quotient
will be found 30.

Diuidend	750	287506
Diuifor	25	139794
Quotient	30	147712

PROB. III.

*To three numbers giuen to finde a
fourth proportionall.*

Adde the Log. of the se-
cond' tearme to the Log.
of the third, then from
the summe of them substract the
Log. of the first tearme; this
done, the number that remains
is the Log. of the fourth tearme
demanded.

Example, let these three
numbers 12. 6. and 432. bee gi-
uen (as in the second Probleme
of the last Chap.) to which it is
re-

required to finde a fourth pro-
portionall: The Logar. of *6*. is
077815. and the Log. of 432. is
263548. The fumme of them is
341363. from which if I fub-
tract 107918. the Logar. of 12.
the firft tearme, the number
which remaynes is 233445.
which by the third Probleme of
the laft Chapter is the Loga-
rithme of 216. the fourth terme
required.

As	12	107918
Js to	6	077815
So is	432	263548
		341363
To	216	233445

Prob. IV.

Hauing three numbers giuen, to
find

find a fourth in an inuersed proportion.

Adde the Log. of the first and second termes together, then out of the summe substract the Log. of the third tearme; this done, that which remayness is the Logarithme of the fourth terme required.

Example, if 60. men in 45. houres can make a Trench; in how many houres can 40. men make such another?

Men	60		177815
Houres	45		165321
			343136
Men	40		160205
Houres	67	$\frac{324}{643}$	182931

So that 40. men in the space of 67. houres and an halfe can doe

doe as much as 60. men in 45. houres.

Prob. V.

Hauing three numbers giuen , to finde a fourth in a duplicated proportion.

Ouble the difference of the Logarithmes, which belóg to the two termes, that haue the same denomination; then (if the first terme be lesse then the second) adde that difference doubled to the Log. of the other terme; this done, the summe is the Logar. of the fourth terme required.

So the superficiall content of a Circle; whose Diameter is 14. inches, being 154. square inches; the content of another Circle, whose

whoſe Diameter is '28. inches
will be found 616.

Diameter	14	114612
Diameter	28	144715
Difference		30103
Difference doubled		60206
Content giuen	154	218752
Cont. required	616	278958

But if the firſt tearme bee
greater then the ſecond, ſub-
tract the difference doubled
from the Logar. of the other
tearme.

Example.

Diameter	28	144715
Diameter	14	114612
Difference		30103
Difference doubled		60206
Content giuen	616	278958
Cont. required	154	218752

Prob.

Prob. VI.

Hauing three numbers giuen to find a fourth in a triplicated proportion.

TRiple the difference of the Logarithmes, which belong to the two termes, that haue the same denominat. then (if the first terme bee lesse then the second) adde that difference so tripled to the Log. of the other terme, and so shall you haue the Log. of the fourth tearme demanded.

Example, if a Bullet, whose Diameter is 4. inches weigh 9. pounds; another Bullet, whose Diameter is 8. inches, will weigh 72. pounds.

Diameter

Diameter	4	060205
Diameter	8	090303
Difference		30103
Difference tripled		90309
Weight giuen	9	095424
Weight required	72	185733

But if the firſt terme be grea-
ter then the ſecond, ſubſtract
the difference tripled from
the Logarithme of the other
terme.

Example.

Diameter	8	090308
Diameter	4	060205
Difference		30103
Difference tripled		90309
Weight giuen	72	185733
Weight required	9	095424

PROB.

Prob. VII.

Any number being giuen; to finde the squa e Root thereof.

Diuide the Logar. of the number giuen by 2. this done, you haue the Lo-arithme of the Roote requi-ed.

The number giuen 625 27958⅞
The root required 25 139794

Prob. VIII.

To finde the Cube Root of any number giuen.

Diuide the Logar. of the number giuen by 3. this done, you haue the Log. of the Root required.

D   *The*

The number giuen	729	286272
The Root required	9	095424

Prob. IX.

Betwixt two numbers giuen to find a meane proportionall.

Dde the Log. of the two numbers giuen ; then diuiding the summe by 2. you haue the Log. of the meane proportionall required.

The num- ⎰	8	090308
bers giuen ⎱	32	150514

The summe of the Log.	240822
The halfe summe	120411

which is the Logar. of 16. the the meane proportionall demanded.

Prob.

PROB. X.

Betwixt two numbers giuen , to find two meane prrportionalls.

HAving found the diffe-rence betwixt the Loga-rithmes of the numbers giuen, and added the third part of it to the Logar. of the leaft number propounded, you haue the Logar. of the leffer meane proportionall you looke for; to which if you againe adde the fame third part , you fhall haue the Logar. of the other meane proportionall required.

Example.

Numbers giuen	{	8	090308
	{	64	180617
The Difference			90;09
The third Part.			30103
The leffer m. prop.		16	120411
The other m. prop.		32	150514

CHAP. VI.

The vse of the Logarithme-
ticall Tables in the reso-
lution of right line Tri-
angles.

THus much briefly
concerning the
vſe of the Loga
rithmeticall Ta-
bles in Arithme-
tique: now followes the vſe of
them in Geometry, which is
chiefly diſcouered in the reſo-
lution of Triangles: And now
according to the diuiſion of
Triangles into right lined, and
Sphericall', wee will firſt ſhew
the vſe of them in the reſolu-
tion of right line Triangles.

PROB.

PROB. I.

The three Angles , and one side of a right line Triangle beeing knowne; to find either of the other sides.

AS the sine of the angle oppoſed to the side giuen is to the parts of the ſame ſid e : So is the ſine of the angle oppoſed to the ſide required , to the parts of that ſide. And therefore,

Adde the Log. of the ſide giuen to the ſine of the angle oppoſed to the 'ſide required;then ſubſtract out of that ſumme the ſine of the angle oppoſed to the ſaid ſide giuen : this done, the number , that appertaynes to the Log. remayning, is the

D 3   length

length of the side you looke
for.

Example, in the Triangle C.
B. D. (which you shall finde in
the first of the Diagrams pla-
ced after the Tables) let the an-
gle D. be 122. deg. and the an-
gle C. 43. deg. 20. min. and by
consequent the angle B. (being
the complement of the two o-
ther angles to 180. deg.) must
needs be 14. deg. 40. min. And
let the side D. C. being 100.
paces represent the distance
betwixt the two stations D. and
C. this supposed, I demand the
distance betwixt D. and B. The
Log. of the side D. C. *(viz.* of
100.) by the first Probleme of
the fourth Chapter is 200000.
and the sine of 43. deg. 20. min.
(the angle opposed to the side
required) is 983647. by the 6.
                                    Pro.

Probleme of the same Chapter. The summe of these is 118
3647. From which if I substract
940345. the sine of the angle
B. opposed to the side knowne,
the Logar. which remaynes is
243302. Vnto which (by the 3.
Probleme of the said 4. Chapter) answeres the number 271.
which is the length of the side
D.B. required, *viz.* 271. paces.
For

As the Sin. of	14.40.	940345
Is to the side gi.	100.	200000
So is the Sin. of	43.20.	983647
		1183647
To the side requi.	271.	243302

PROB. II.

Two sides of a right line Triangle,
and an Angle opposite to one of

D 4 *them*

*them being knowne ; to find the
Angle oppoſed to the other ſide.*

AS the ſide oppoſed to
the angle giuen is to the
ſine of the ſame angle :
So is the other ſide knowne,
to the ſine of his oppoſite angle.

So the ſide D. C. being 100.
the ſide D. B. 271. and the an-
gle B. 14. degrees 40. min. The
angle C. will be found 43. degr.
20. minutes. For

As the ſide D. C.	100	200000
To the ſin. of B.	14.40.	940345
So is the ſide D.B.	271	243302
		1183647
To the ſin of C.	43.20.	983647

PROB. III.

*Hauing two ſides, and the Angle
be-*

betweene them , to finde the other two Angles, and the third side.

1 IF the angle included bee a right angle, the proportion will be such :

As the greater side is to the lesser : so is the Radius to the Tangent of the lesser angle.

So in the Triangle A. B. D. of the first Diagram the side A. B. being 230. and the side D. A.

143 $\frac{72}{100}$ will be 32. degrees. For,

As the side 230   236172

Is to the side **143** $\frac{72}{100}$ 215750

So is the Radius   1000000

                          1215750
To the Tang. of 32. deg.   979578

D 5   2 But

2 But if the angle included be oblique.

As the ſumme of the ſides giuen is to the difference of the ſame ſides: ſo is the Tangent of the halfe ſumme of the angles vnknowne to the Tangent of the halfe of their difference.

Example, In the Triangle C. B. D. the ſide D. B. beeing 271. the ſide D. C. 100. and the angle D. 122. deg. I demand the angles B. and C. The ſumme of the ſides D. B. and D. C. is 371 the difference of them is 171. and the angle D. being 122. degrees, the ſumme of the other angles vnknowne is 58. deg. and therefore the halfe of it is 29. degrees. Iſay then,

As

As the *summe*	371	256937
Is to the *differ*,	171	223299
So is the *Tang.* of	29.d.	974275

		1197674
To the *Tang.* of	14.20.	940737

Now these 14. deg. 20. min.
being added to 29. d. the halfe
summe of the angles vnknowne
the summe will bee 43. deg. 20.
min. *viz.* the angle C. then sub-
stracting the said 14. degr. 20.
min. from 29. deg. you haue 14
deg. 40. min. for the angle B.
Lastly, knowing the three an-
gles, and two sides, the third
side may bee found by the first
Probleme of this Chapter.

PROB. IV.

Hauing the three sides of a triangle
to find the superficiall content.

Adde the three sides toge-
ther, then from the halfe
summe

ſumme ſubſtract each ſide, to
end you may haue the diffe-
rence betwixt that halfe ſumme
and each ſide; this done, adde
the Logarithmes of the ſaid
halfe ſumme, and of thoſe diffe-
rences together: And laſt of all
diuiding the ſumme of thoſe
Logarithmes by 2. you haue the
Logarithme of the content re-
quired.

Example; The three ſides of
the Triangle E. F. G. being 20
13. and 11. how much is the ſu-
perficiall content thereof? The
ſumme of the ſides is 44. the
halfe ſumme is 22. the differen-
ces betwixt each ſide, and that
halfe are 2. 9. and 11. which
numbers ranke in this order
following,

The

The halfe summe	22	134242
The differences	2	030102
	9	095424
	11	104139

The summe of the Log. 363907
The content required 66. 181954

This Probleme with the ex-
ample I haue taken out of the
13. Chapter of Master *Brigs* his
Booke intiled (*Arithmetica Lo-
garithmetica*) whether I referre
you for a more ample explana-
tion of the same.

CHAP. VII.

The vse of the Logarithme-
ticall Tables in the resolu-
tion of spherical triangles.
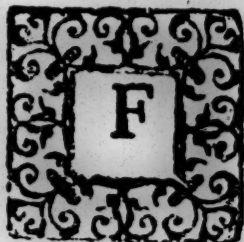
FRom Right Line
Triangles come
we to Spherical,
and first to Rect-
angle

angles Triangles. Where ob-
ſerue that the ſide oppoſite to
the right angle is called the
Baſe, but the other two retaine
alwayes the name of ſides.

In Rectangle
Triangles.

PROB. I.

*The two ſides being giuen to find
the Baſe.*

AS the Radius is to the co-
ſine of one of the ſides:
ſo is the coſine of the o-
ther ſide to the coſine of the
Baſe.

Example, In the Triangle A.
B. C. of the 3. Diagram the
ſide A. C. being 27. deg. 54. mi-
nutes,

nutes, and the side C. B. **11.** degrees **30.** minutes, the Base B. A. will be found **30.** deg. For,

As the Radius		1000000
To the Cof. of	27.54.	994633
So is the Cof. of	11.30.	999119
		1993752
To the Cof. of **30.** *deg.*		993752

Prob. II.

The two sides being giuen to know either of the oblique Angles.

AS the sine of the side next the angle inquired is to the Radius; so is the Tangent of the opposite side, to the Tangent of the angle required. So in the same Triangle A.C. being **27.** deg. **54.** min. and B. C. **11.** deg. **30.** min. the angle

A.

A. will bee found 23. deg. 30. min. For,

As the **Sin**. *of* 27.54.	967018
To the Radius	1000000
So is the Tan.of 11.30.	930846
	1930846
To the Tang. of 23.30	963828

Prob. III.

The Bafe, and one of the oblique Angles being giuen,to finde the other oblique Angle.

AS the Radius is to the Cofine of the Bafe: fo is the Tangent of the angle giuen, to the contangent of the angle inquired.

Example,the Bafe B.A. being 30. deg. and the angle A.23.degrees 30. min. the angle B. will be

be 69. deg. 22. minutes. For,

As the Radius   1000000
To the Cos. of 30. d.   993753
So is the Tang. of 23.30. 963830
                           1957583
To the cot. of   69.22. 957583

PROB. IV.

*The Base, and one of the oblique
Angle being giuen, to finde the
side next vnto the same Angle.*

AS the Radius is to the
Cosine of the Angle
knowne : so is the Tan-
gent of the Base , to the Tan-
gent of the side required.

So B. A. beeing 30. deg. and
the angle A. 23. deg. 30. min.
the side A. C. will bee found 27.
deg. 54. minutes. For,

As

As the Radius	1000000
To the Cof. of 23.30	996239
So is the Tan. of 30.0.	976143
	1972382
To the Tang. of 27.54.	972382

PROB. V.

*The Base , and one of the oblique
Angles being knowne , to finde
find the side opposed to the same
Angle.*

AS the Radius is to the
fine of the Bafe : fo is the
fine of the angle giuen to
the fine of the fide inquired.

So B. A. being 30. deg. and
the angle A. 23. deg. 30. min, the
fide C. B. oppofite to the fame
angle will be found 11. deg. 30.
minutes. For,

As

As the Radius		10000.0
To the sine of	30. d.	969897
So is the sine of	23.30.	960069
		1929966
To the sine of	11.30.	929966

PROB. VI.

One of the sides and the oblique
   Angle next vnto it being giuen,
   to find the Base.

AS the Cosine of the angle
   giuen is to the Radius: so
   is the Tangent of the
side giuen to the Tangent of
the Base.

   Example, the side A.C. be-
ing 27. deg. 54. min and the
angle A. 23. deg. 30. min. you
shall finde the Base 30. degrees.
For,

                              As

As the Cof. of	23.30.	996239
To the Radius		1000000
So is the Tang. of	27.54.	972384
		1972384
To the Tang. of	30. d.	976145

PROB. VII.

One of the sides, and the obliqu
    Angle next vnto it beeing
    knowne, to find the other side.

AS the Radius is to the fine of the side giuen ; so is the Tangent of the angle giuen to the Tangent of the side required.

So A.C. being 27. deg. 54 min. and the angle A. 23. deg. 30. minutes, the side C.B. will bee found 11. deg. 30. minutes. For,

As the Radius		1000000
To the Sine of	27.54.	967018
So the Tang. of	23.30.	963830
		1930848
To the Tang. of	11.30.	930848

Prob. VIII.

One of the sides, and the oblique Angle next vnto it beeing knowne; to finde the other oblique Argle.

AS the Radius to the Cosine of the side giuen, so is the sine of the angle giuen to the Cosine of the angle required.

So A. C. being 27. deg. 54. min. and the angle A. 23. deg. 30. min. you shall find the angle B. 69. deg. 22. min. For,

As

As the Radius   100000c
To the Coſine of 27.54.   99463ʒ
So the Sine of 23 30.   96006ɟ
                           ──────
                            195470ɟ
To the Coſine of 69.22.   954708

PROB. IX.

One of the ſides, and the Angle op-
poſed vnto it being knowne; t
finde the Baſe.

AS the ſine of the angle gi-
uen to the ſine of the ſide
giuen; ſo is the Radius to
the ſine of the Baſe.

So the ſide B. C. being 11. d.
30. m. & the angle A. 23. d. 30. m
the Baſe will be found 30.0. For.

As the ſine of 23.30.   96006ɟ
To the ſine of 11.30.   929966
So the Radius   1000000
                           ──────
                            1929966
To the ſine of 30.0.   969896

PROB

PROB. X.

One of the sides, and the Angle op-
posed unto it being given; to find
the other side.

AS the Tangent of the an-
gle given is to the Tan-
gent of the side; so is the
Radius to the sine of the side
required.

So B. C. being 11.30. and the
Angle A. 23. 30. the side A. C.
will be 27.54. For,

As the Tan. of	23.30.	963830
To the Tan. of	11.30.	930846
To the Radius		1000000
		1930846
To the sine of	27.54.	967016

PROB. XI.

One of the sides, and the Angle op-
posed

*poſed vnto it being giuen; to find
the other oblique Angle.*

AS the Coſine of the ſide
giuen is to the Coſine
of the angle giuen; ſo is
the Radius to the ſine of the
angle required.

So B. C. beeing **11.30**. and
the angle A. **23.30**. the angle
B. will be found **69.22**. For,

As the Coſ. of	**11.30.**	999119
To the Coſ. of	**23.30.**	996239
So the Radius		1000000
		1996239
To the ſine of	**69.22.**	997120

Prob. XII.

*One of the ſides, and the Baſe be-
ing knowne; to find the oblique
Angle*

Angle adiacent vnto the same side.

AS the Tangent of the base is to the Tangent of the side giuen; so is the Radius to the Cosine of the angle required.

So the side A. C. being 27. d. .. m. and the Base B. A. 3 0. d. . m. the angle A, will be found ..d.30.m. For,

s the *Tang.* of 30. 0.	976143
o the *Tang.* of 27.54.	972384
o the *Radius*	1000000
	1972384
o the cos. of 23.30.	996241

Prob. XIII.

One of the sides, and the Base being knowne; to finde the

E   *Angle*

Angle oppofed vnto the fame fide.

AS the fine of the Bafe is to the Radius; fo is the fine of the fide giuen to fine of the angle required.

So A.C. being 27.d. 54. m. & B.A. 30.d. 0.m. the angle B. will be found 69.d.22.m. For,

As the fine of	30. 0.	96989
To the Radius		1000000
So the fine of	27.54.	967018
		1967018
To the fine of	69.22.	997121

PROB. XIV.

One of the fides, & the Bafe being giuen ; to find the other fide.

AS the Cofine of the fide giuen is to the Radius: fo is the Cofine of the Bafe.

Base to the Cosine of the side required.

So A.C.being 27.d.54.m.and B.A. 30.d.o.m. the side B.C.will be found 11.d.30.m. For,

As the cos. of	27.54.	994633
To the Radius		1000000
So the cos. of	30. 0.	993753
		1993753
To the cos. of.	11.30.	999120

Prob. XV.

The two oblique Angles being given; to find the Base.

AS the Tangent of one of the angles is to the Co-tangent of the other angle; so is the Radius to the Co-sine of the Base.

So the Angle A. being 23. d. 30. m. and the angle B. 63.d.

22.min. the Base B. A. will be
found 30. d.o.min. For,

As the Tang. of 23.30.   9638;
To the cotan.of 69.22.   95758
So is the Radius   100000
                           ─────────
                           195758
To the cosine of 30. 0. 99375

PROB. XVI.

*The two oblique Angles being g,
uen; to find either of the side*

AS the sine of one of t
angles is to the Cosin
of the other angle; fo
the Radius to the Cosine of t
side opposite to the Angl
whose Cosine was taken.

So the angle A. beeing 23.(
30. min. and the angle B. 69.(
22.min. the side A. C. will be
found 27.d.54.min. For,

                              A

As the fine of	23.30.	960069
To the cofine of	69.22.	954701
So is the Radius		1000000
		1954701
To the cofine of	27.54.	994632

In all Sphericall Triangles.

PROB. XVII.

*Two Angles, and a fide oppofed
to one of them beeing given to
finde the fide oppofed to the o-
ther.*

AS the fine of the angle op
pofed to the fide knowne
is to the fine of the fame
fide; fo is the fine of the angle
oppofed to the fide required to
the fine of that fide.

E 3   So

So in the Triangle A.B.E. of
the third Diagram the angle E
being 38.d.15.m. the side B.A.
30.d.o. m. & the angle A. 23. d.
30.m. I demand the side B. E. I
say then.

As the sine of	38.15.	97917
To the sine of	30. 0.	96989
So is the sine of	23.30.	96006
		1929966
To the sine of	18.47.	95075

which is the measure of the side
B. D. required.

PROB. XVIII.

*Two sides, and an Angle opposed to
one of them being knowne; to
find the Angle opposed to the o-
ther.*

AS the sine of the side op-
posed to the angle giuen,
is to the sine of the same
angle

angle ; fo is the fine of the fide oppofed to the angle inquired; to the fine of that angle.

Example, In the faid Triangle A. B. E. the faid B.A. being 30.d.o.m. the angle E. 38.d.15. m. and the fide B.E.18.d.47.m.I demand the angle A. I fay then,

As the fine of	30. 0.	969897
To the fine of	38.15.	979175
So the fine of	18.47.	950784
		1929959
To the fine of	23.30.	960062

which is the meafure of the angle A. required.

Prob. XIX.

Two fides, and the angle included betwixt them being giuen; to find the other fide.

TO refolue this Probleme, it is neceffary to let fall a perpendicular from one

E 4   or

of the angles vnknowne vpon
one of the sides giuen , and by
this meanes to change the Tri-
angle propounded into two
Rectangle Triangles.

For example , the said Tri-
angle A. B. E. beeing propoun-
ded , of which the sides **A**. B
and **A**. E. as also the angle A.
are knowne , and the side B. E
is required : Letting fall from
the angle B. the perpendicular
B. C. vpon the side A. E . by the
5. Probleme of this Chapter
(for as the Radius is to B. **A.** so
is the angle A. to the perpen-
dicular B.C.) the Triangle A.B.
E. becomes two Rectangle Tri-
angles, *viz*. A.C.B. and B.C.E
Now the operation being thus
prepared , in the Triangle A.
C.B. the side B.A. and the angle
A. being knowne, the side A.C.
may

may bee found by the fourth
Probleme of this Chap., which
being substracted from the side
A.E. the remainder will bee C.
E. *viz.* one of the sides of the
Rectangle B. C. E. and by con-
sequent in the said Rectangle B.
C.E. the sides B.C. & C.E. being
knowne, the Base B.E. (*viz.* the
side required) may bee found
by the first Probleme of this
Chapter.

Sometimes the perpendicu-
lar will fall out of the Triangle
propounded; so if the Trian-
gle A. B. D. were propounded,
the perpendicular would fall
vpon the side A. D. being pro-
longed as farre as the point C.
and in this case the two Rectan-
gle Triangles are A. C. B. and
D. C. B. and therefore the side
B. D. required may be likewise

F 5   found

found by the Problemes of
Rectangle Triangles.

Prob. XX.

Two sides, and the angle included
   betwixt them being giuen; to
   find eyther of the other angles.

Ere you must let fall a
perpendicular from one
of the angles vnknowne
vpon the side adiacent to the
angle required, and then re-
solue it by the Problemes of
Rectangle Triangles, as before.

Prob. XXI.

Two sides being giuen , and one of
   the angles adiacent to the sid.

...knowne, to finde the same side.

THis Probleme may be refolued alfo by letting fall a perpendicular from the angle included betwixt the two fides knowne vpon the fide vnknowne.

Prob. XXII.

Two fides being given, and one of the angles adiacent to the other fide, to find the angle included betwixt the fides given.

FOr the refolution of this Probleme let the perpendicular fall from the angle inquired vpon his oppofite fide.

Prob.

Prob. XXIII.

Two angles being giuen, and the
side adiacent vnto them; to find
either of the other sides.

IN this case you must let fall
the perpendicular from one
of the angles knowne vpon
one of the sides vnknowne.

Prob. XXIV.

Two angles being giuen, and the
side adiacent vnto them; to find
the other angle.

THis Probleme is perfor-
med by letting fall the
perpendicular from ey-
ther of the angles knowne vp-
on his subtending side.

Prob.

PROB. XXV.

Two Angles being giuen, and one of the sides adiacent vnto the angle vnknowne; to find the side adiacent vnto the angles giuen.

This Probleme is resolued by letting fall the perpendicular from the angle vnknowne vpon the side required.

PROB. XXVI.

Two Angles being giuen, and one of the sides adiacent vnto the Angle vnknowne ; to find the same Angle.

To resolue this Probleme, you must let fall the perpendicular from the angle

gle vnknowne vpon his oppo-
site side.

PROB. XXVII.

*The three sides being knowne, to
find any of the Angles.*

Dde the three sides to-
gether, then from the
halfe summe substract the
side opposite to the angle re-
quired; this done, the propor-
tion will be as followeth.

1 As the Radius is to the
sine of one of the sides, which
comprehend the angle requi-
red; so is the sine of the other
side that comprehends the
same angle, to a fourth sine.

2. As that fourth sine is to
the sine of the halfe summe of
the sides; so is the sine of the
diffe-

difference betwixt the halfe
summe, and the side oppofed to
the angle required , to a fe-
uenth fine.

Now if you adde to this fe-
uenth fine the Radius, halfe the
summe which accrues vpon that
addition will bee the fine of an
arke, whofe complement being
doubled, will giue you the angle
you looke for.

Example, In the faid Trian-
gle A.B.E. the fide A. B. being
30.d. o.m. the fide B. E. 18.47.
and the fide A. E. 42.d.51.m. I
demand the angle B. The fum
of the fides is 91.d.38.m. halfe
of this fumme is 45.d.49.m. and
the fide A. E. 42.d.51.m. being
fubftracted from that halfe
fumme there remaynes 2.d.58.
min. for the difference betwixt
the faid halfe fumme , and
the

the said A. E. I say then,

1.

As the Radius		1000000
To the Sine of	30. 0.	969897
So the Sine of	18.47.	950784
		1920681
To the fourth Sine		920681

2.

As the fourth sine		920681
To the sine of	45.49.	985558
So the sine of	2.58.	871395
		1856953
To the seuenth sine		936272
The Radius		1000000
The summe		1936272
The halfe summe		968136

which being searcht in the Table of Sines and Tangents will be

be found the fine of 28.d.42.m. whofe complement is 61.d. 18. min. which being doubled is 122. d. 36. *viz.* the meafure of the angle A. B. E. required.

Prob. XXVIII.

The three Angles being knowne; to find any of the fides.

IF in ftead of the greateft angle , you take his comple-ment to 180. deg. the angles change themfelues into fides, and the fides into angles , and by confequent the operation will bee the fame with that of the laft Probleme.

FINIS.

The Contents of the Chapters contayned in this Booke.

CHAP. I.

CHAP. II.

CHAP. III.

CHAP. IV.

Faults

Faults committed in *the Impreſſion of the* Tables.

In the TABLE of *Numbers.*

Etwixt the numbers 370. & 372. write 371. Item, betwixt 534. & 536. write 535 And betwixt 615. & 617. wr. 616

Betwixt the Logarithmes of 544. & 545. For the difference 7996. read 7976.

For the Logar. of 495. wr. 269 &c. Of 540. wr. 273. &c. Of 541 wr. 27331972. Of 650. wr. 28129 133. Of 681. wr. 283. &c. And of 902. write 29552065.

In the Table of Sines and Tangents.

For the fine of 8. degrees 56 minuutes write 91911398. Of 13.26.wr.936.&c. Of 21.59. wr. 9573.&c. Of 32.23. wr.972. &c. Of 44.23.wr.99447600. Of 69.9 wr.99705864. Of 70.42.wr.9574 &c. Of 79.21.wr. 9992.&c. And of 83.1.wr.9996.&c.

Item for the Tangent of 0.d. 15.min.wr.76398201. Of 8.56. wr.91964402. Of 10.10.wr.9253 &c. Of 15.7.wr. 94315773. Of 26.13.wr.9692. &c. Of 38.17 wr.989.&c. Of 41.48.wr.99513 840. Of 48.5.wr.10046.&c. Of 58.43. wr. 102163742. Of 60.1 wr.1023.&c. Of 72.9. wr,10492. &c. Of 79.3.wr.107133755. Of 81.4.wr.108035597. Of 83.27 wr.

.. 10 939.&c. And of 54.47. wr.
1109.&c.

In the last page of 58. de-
grees . after the title Tangent
write 58.

These faults in the Tables
being corrected you may pro-
ceed to vse them without fear
of Errour.

Faults in the discourse.

Page 25. line 11. for 0001. re.
001. And pag. 65. line 19. for
60309. read 90309.

THE FIRST
CHILIAD OF
Logarithmes,

*Called in the Discourse
aforegoing the Ta-
ble of Numbers.*

By HENRY BRIGS
Sr. *Henry Sauils* Pro-
fessor of *Geometry* in
the Vniuersitie of
Oxford,

N.	Logarith.	N.	Logarith.
1	00000000	16	12041199
			263285
2	03010299	17	12304485
	1760912		248235
3	04771212	18	12552725
	1249387		234810
4	06020599	19	12787535
	969100		222765
5	06989700	20	13010295
	791812		211895
6	07781512	21	13222195
	669467		202035
7	08450980	22	13424225
	579919		193055
8	09030899	23	13617275
	511525		184835
9	09542425	24	13802115
	457574		177285
10	10000000	25	13979405
	413926		170335
11	10413926	26	14149735
	377885		163925
12	10791812	27	14313665
	347621		157945
13	11139433	28	14471585
	321846		152595
14	11461280	29	14623975
	299632		147235
15	11760912	30	14771215
	280287		142405

N.	Logarith.	N.	Logarith.
31	14913616	46	16627578
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32	15051499	47	16720978
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33	15185139	48	16812412
	129649		89548
34	15314789	49	16901960
	125891		87739
35	15440680	50	16989700
	122344		86001
36	15563025	51	17075701
	118992		84331
37	15682017	52	17160033
	115818		82725
38	15797835	53	17242758
	112810		81178
39	15910646	54	17323937
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40	16020599	55	17403626
	107238		78253
41	16127838	56	17481880
	104654		76868
42	16232492	57	17558748
	102191		75531
43	16334684	58	17634279
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44	16434526	59	17708520
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45	16532125	60	17781512
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62	17923916	77	18864907
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63	17993405	78	18920946
	68394		5532
64	18061799	79	18976273
	67333		5462
65	18129133	80	19030890
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66	18195439	81	19084855
	65308		5328
67	18260748	82	19138135
	64341		5264
68	18325089	83	19190778
	63401		5201
69	18388490	84	19242797
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70	18450980	85	19294180
	61603		5079
71	18512583	86	19344495
	60741		5020
72	18573324	87	19395157
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73	18633228	88	19344825
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92	19637878	107	20293837
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93	19684829	108	20334237
	46449		40027
94	19731278	109	20374264
	45957		39661
95	19777236	110	20413926
	45476		39302
96	19822712	111	20453229
	45005		38950
97	19867717	112	20492180
	44543		38604
98	19912260	113	20530784
	44091		38264
99	19956351	114	20569048
	43648		37929
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101	20043213	116	20644579
	42787		37278
102	20086001	117	20681858
	42370		36961
103	20128372	118	20718820
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122	20863598	137	21367205
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124	20934216	139	21430148
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125	20969100	140	21461280
	34605		30910
126	21003705	141	21492191
	34331		30692
127	21038037	142	21522883
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128	21072099	143	21553360
	33797		30264
129	21105897	144	21583624
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130	21139433	145	21613680
	33279		29848
131	21172712	146	21643528
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132	21205739	147	21673173
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133	21238516	148	21702617
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152	21818435	167	22227164
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154	21875207	169	22278867
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155	21903316	170	22304489
	27929		25473
156	21931245	171	22329961
	27750		25323
157	21958996	172	22355284
	27574		25176
158	21986570	173	22380461
	27400		25031
159	22013971	174	22405492
	27228		24888
160	22041199	175	22430380
	27058		24746
161	22068258	176	22455126
	26891		24605
162	22095150	177	22479732
	26725		24467
163	22121876	178	22504200
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164	22148438	179	22528530
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165	22174639	180	22552725
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A iiij

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185	22671717	200	2301029
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186	22695129	201	230319
	23286		215
187	22718416	202	230535
	23162		214
188	22741578	203	2307498
	23039		213
189	22764618	204	230963
	22917		212
190	22787536	205	231175
	22797		211
191	22810333	206	231386
	22678		210
192	22833012	207	231597
	22560		209
193	22855573	208	231806
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194	22878017	209	232014
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195	22900346	210	232221
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214	23304137	229	23598354
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215	23324384	230	23617278
	20152		18841
216	23344537	231	23636119
	20059		18760
217	23364597	232	23654879
	19967		18679
218	23384564	233	23673559
	19876		18599
219	23404441	234	23692158
	19785		18520
220	23424226	235	23710678
	19695		18441
221	23443922	236	23729120
	19607		18363
222	23463529	237	23747483
	19518		18286
223	23483048	238	23765769
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224	23502480	239	23783979
	19344		18133
225	23521825	240	23802112
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242	23838153	257	24099331
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244	23873898	259	24132997
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245	23891660	260	24149733
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246	23909351	261	24166405
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247	23926969	262	24183011
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248	23944516	263	24199557
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249	23961993	264	24216039
	17406		16419
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251	23996737	266	24248816
	17268		16296
252	24014005	267	24265112
	17199		16235
253	24031205	268	24281347
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254	24048337	269	24297521
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255	24065401	270	24313637
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272	24345689	287	24578818
	15937		15105
273	24361626	288	24593924
	15879		15053
274	24377505	289	24608978
	15821		15001
275	24393326	290	24623979
	15763		14949
276	24409090	291	24638929
	15706		14898
277	24424797	292	24653828
	15650		14847
278	24440447	293	24668676
	15594		14797
279	24456042	294	24683473
	15538		14746
280	24471580	295	24698220
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281	24487063	296	24712917
	15427		14647
282	24502491	297	24727564
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283	24517864	298	24742162
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285	24548448	300	24771212
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302	24800069	317	25010592
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303	24814426	318	25024271
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304	24828735	319	25037906
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305	24842998	320	25051499
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306	24857214	321	25065050
	14169		13508
307	24871383	322	25078558
	14123		13466
308	24885507	323	25092025
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309	24899584	324	25105450
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310	24913616	325	25118833
	13986		13342
311	24927603	326	25132176
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313	24955443	328	25158738
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33	25224442	348	25415792
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34	25237464	349	25428254
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35	25250448	350	25440680
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37	25276299	352	25465426
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39	25301996	354	25490032
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43	25352941	358	25538830
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362	25587087	377	25763411
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363	25599066	378	25774917
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364	25611013	379	25786392
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365	25622928	380	25797835
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366	25634810	381	25809248
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367	25646660	382	25820633
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368	25658478	383	25831987
	11785		11324
369	25670263	384	25843311
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370	25682017	385	25854607
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371	25693739	386	25865871
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372	25705429	387	25877109
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373	25717088	388	25888311
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374	25728716	389	25899496
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375	25740312	390	25910646
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392	25932860	407	26095944
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394	25954962	409	26117233
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395	25965970	410	26127838
	10980		10579
396	25976951	411	26138418
	10953		10553
397	25987905	412	26148972
	10925		10528
398	25998830	413	26159500
	10898		10502
399	26009728	414	26170003
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400	26020599	415	26180480
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401	26031443	416	26190933
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402	26042260	417	26201360
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403	26053050	418	26211762
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405	26074550	420	26232492
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423	26263403	438	26414741
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424	26273658	439	26424645
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425	26283889	440	26434526
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426	26294095	441	26444385
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427	26304278	442	26454221
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428	26314437	443	26464037
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429	26324572	444	26473829
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430	26334684	445	26483600
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431	26344772	446	26493341
	10064		9726
432	26354837	447	26503071
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433	26364878	448	26512780
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434	26374897	449	26522464
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435	26384892	450	26532125
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452	26551384	467	26693168
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453	26560982	468	26702458
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454	26570558	469	26711728
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455	26580133	470	26720978
	9534		9230
456	26589648	471	26730209
	9513		9210
457	26599162	472	26739419
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458	26608654	473	26748611
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459	26618126	474	26757783
	9451		9152
460	26627578	475	26766936
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461	26637009	476	26776069
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462	26646419	477	26785183
	9390		9095
463	26655809	478	26794278
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464	26665179	479	26803355
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465	26674529	480	26812412
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483	26839471 8982	498	26972293 8712
484	26848453 8963	499	26981005 8694
485	26857417 8945	500	26989700 8677
486	26866362 8926	501	26998377 8659
487	26875289 8908	502	27007037 8642
488	26884198 8890	503	27015679 8625
489	26893088 8872	504	27024305 8607
490	26901960 8854	505	27032913 8591
491	26910814 8836	506	27041504 8573
492	26919651 8818	507	27050078 8557
493	26928469 8800	508	27058635 8540
494	26937269 8782	509	27067175 8523
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514	27106931	529	27234556
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515	27118072	530	27242758
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516	27126497	531	27250945
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517	27134905	532	27259116
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518	27143297	533	27267272
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519	27151673	534	27275412
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520	27160033	535	27283537
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521	27168377	536	27291647
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522	27176705	537	27299742
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523	27185016	538	27307822
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524	27193312	539	27315887
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525	27201593	540	27323937
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544	27355988	559	2747411?
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545	27363965	560	2748189?
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551	27411515	566	2752818?
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552	27419390	567	2753585?
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553	27427251	568	2754334?
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573	27581546	588	27693773
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574	27589118	589	27701152
	7559		7367
575	27596678	590	27708520
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576	27604224	591	27715874
	7533		7342
577	27611758	592	27723217
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578	27619278	593	27730546
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579	27626785	594	27737864
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580	27634279	595	27745169
	7481		7292
581	27641761	596	27752462
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582	27649229	597	27759743
	7455		7268
583	27656685	598	27767011
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584	27664128	599	27774268
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585	27671558	600	27781512
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	7196		702:
604	27810369	619	291690:
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605	27817553	620	292391:
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606	27824726	621	293091:
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612	27867514	627	279726:
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613	27874604	628	2797959
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615	27888751	630	2799340:
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634	28020892	649	28122446
	6844		6686
635	28027737	650	28129833
	6833		6676
636	28034571	651	28135809
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637	28041394	652	28142475
	6812		6655
638	28048206	653	28149131
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641	28068580	656	28169038
	6769		6615
642	28075350	657	28175653
	6759		6605
643	28082109	658	28182258
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644	28088858	659	28188854
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645	28095597	660	28195439
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662	28208579	677	28305886
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664	28221680	679	28318696
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665	28228216	680	28325089
	6525		6381
666	28234742	681	28331471
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667	28241258	682	28337843
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668	28247764	683	28344207
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669	28254261	684	28350561
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671	28267225	686	28363241
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672	28273692	687	28369569
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673	28280150	588	28375884
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675	28293037	690	28388490
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695	28419848	710	28512583
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702	28463371	717	28555191
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703	28469553	718	28561244
	6173		6044
704	28475726	719	28567288
	6164		6036
705	28481891	720	28573324
	6155		6027

C

N.	Logarith.	N.	Logarith.
721	28579352	736	2866887?
	6019		589?
722	28585371	737	2867446?
	6010		58?
723	28591382	738	2868050?
	6002		58?
724	28597385	739	2868064?
	5994		587
725	28603380	740	2869231?
	5986		58?
726	28609366	741	2869810
	5977		58?
727	28615344	742	2870405
	5969		58?
728	28621313	743	2870920
	5961		5??
729	28627275	744	28715??
	5953		58?
730	28633228	745	2872150
	5945		5?
731	28639173	746	2872730
	5937		5?
732	28645110	747	2873300
	5928		5?
733	28651039	748	2873200?
	5920		5?
734	28656960	749	2874400?
	5912		5?
735	28662873	750	2875000?
	5904		5?

N.	Logarith.	N.	Logarith.
751	28756399	766	28842287
	5779		5665
752	28762178	767	28847953
	5771		5658
753	28767949	768	28853612
	5763		5651
754	28773713	769	28859263
	5756		5643
755	28779469	770	28864907
	5748		5636
756	28785217	771	28870543
	5710		5629
757	28790958	772	28876173
	5733		5621
758	28796692	773	28881794
	5725		5614
759	28802417	774	28887409
	5718		5607
760	28808135	775	28893017
	5710		5600
761	28813846	776	28898617
	5703		5592
762	28819549	777	28904210
	5695		5585
763	28825245	778	28909795
	5688		5578
764	28830933	779	28915374
	5680		5571
765	28836614	780	28920946
	5673		5564

N.	Logarith.	N.	Logarith.
781	28926510	796	29009133
	5557		5453
782	28932067	797	29014588
	5550		5443
783	28937617	798	29020023
	5543		5433
784	28943160	799	29025466
	5535		5433
785	28948696	800	29030889
	5528		5423
786	28954225	801	29036322
	5521		5411
787	28959747	802	29041743
	5514		5411
788	28965262	803	29047153
	5507		5400
789	28970770	804	29052553
	5500		5383
790	28976270	805	29057953
	5493		5393
791	28981764	806	29063333
	5486		5383
792	28987251	807	29068733
	5480		5373
793	78992731	808	29074113
	5473		5373
794	28998205	809	29079483
	5466		5363
795	29003671	810	29084853
	5459		5353

N.	Logarith.	N.	Logarith.
811	29090208	826	29169800
	5351		5254
812	29095560	827	29175055
	5345		5248
813	29100905	828	29180303
	5338		5241
814	29106244	829	29185545
	5332		5235
815	29111576	830	29190780
	5325		5229
816	29116901	831	29196010
	5318		5223
817	29122220	832	29201233
	5312		5216
818	29127533	833	29206450
	5305		5210
819	29132839	834	29211660
	5299		5204
820	29138138	835	29216864
	5293		5198
821	29143431	836	29222062
	5286		5191
822	29148718	837	29227254
	5280		5185
823	29153998	838	29232440
	5273		5179
824	29159272	839	29237619
	5267		5173
825	29164539	840	29242792
	5260		5167

N.	Logarith.	N.	Logarith	N.	L
841	29247959	856	293247	71	29
	5160		50	72	2
842	29253120	857	293298		
	5154		50	73	2
843	29258275	858	293348		
	5148		50		
844	29263424	859	293399	74	2
	5142		50	75	2
845	29268567	860	293449		
	5136		504	76	2
846	29273703	861	293500		
	5130		504		
847	29278834	862	293550	77	2
	5124		50	78	2
848	29283958	863	293601		
	5118		50	79	2
849	29289076	864	293651		
	5112		50		
850	29294189	865	293701	80	2
	5106		50	81	2
851	29299295	866	293751		
	5100		50	82	2
852	29304395	867	293801		
	5094		500		
853	29309490	868	293851	83	2
	5088		500	84	2
854	29314573	869	293901		
	5082		499	85	2
855	29319661	870	293951		
	5076		49		

N.	Logarith.	N.	Logarith.
71	29400181	886	29474337
	4983		4898
72	29405164	887	29479236
	4977		4893
73	29410142	888	29484129
	4971		4887
74	29415114	889	29489017
	4966		4882
75	29420080	890	29493900
	4960		4876
76	29425041	891	29498777
	4954		4871
77	29429995	892	29503648
	4949		4866
78	29434945	893	29508514
	4943		4860
79	29439888	894	29513375
	4937		4855
880	29444826	895	29518230
	4932		4849
881	29449759	896	29523080
	4926		4844
882	29454685	897	29527924
	4921		4838
883	29459607	898	29532763
	4915		4833
884	29464522	899	29537596
	4910		4828
885	29469432	900	29542425
	4904		4822

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N.	Logarith.	N.	Logarith.
901	29547247	916	29618954
	4817		4738
902	29552055	917	29623693
	4812		4733
903	29556877	918	29628426
	4806		4728
904	29561684	919	29633155
	4801		4723
905	29566485	920	29637878
	4796		4718
906	29571281	921	29642596
	4790		4712
907	29576072	922	29647309
	4785		4707
908	29580858	923	29652017
	4780		4702
909	29585638	924	29656719
	4775		4697
910	29590413	925	29661417
	4769		4692
911	29595183	926	29666109
	4764		4687
912	29599948	927	29670797
	4759		4682
913	29604707	928	29675479
	4754		4677
914	29609461	829	29680157
	4748		4672
915	29614210	930	29684829
	4743		4667

N.	Logarith.	N.	Logarith.
931	29689496	946	29758911E
	4662		4588
932	29694159	947	29763499
	4657		4583
933	29698816	948	29768083
	4652		4578
934	29703468	949	29772662
	4647		4573
935	29708116	950	29777236
	4642		4569
936	29712758	951	29781805
	4637		4564
937	29717395	952	29786369
	4632		4559
938	29722028	953	29790929
	4627		4554
939	29726655	954	29795483
	4622		4549
940	29731278	955	29800033
	4617		4545
941	29735896	956	29804578
	4612		4540
942	29740509	957	29809119
	4607		4535
943	29745116	958	29813655
	4603		4530
944	29749719	959	29818186
	4598		4526
945	29754318	960	29822712
	4593		4521

N.	Logarith.	N.	Logarith.
961	29827233	976	29894498
	4516		4447
962	29831750	977	29898945
	4512		4442
963	29836262	978	29903388
	4507		4438
964	29840770	979	29907826
	4502		4433
965	29845273	980	29912269
	4498		4429
966	29849771	981	29916690
	4493		4424
967	29854264	982	29921114
	4488		4420
968	29858753	983	29925535
	4484		4415
969	29863237	984	29929950
	4479		4411
970	29867717	985	29934362
	4474		4406
971	29872192	986	29938769
	4470		4402
972	29876662	987	29943171
	4465		4397
973	29881128	988	29947569
	4461		4393
974	29885589	989	29951962
	4456		4389
975	29890046	990	29956351
	4452		4384

N.	Logarith.	N.	Logarith.
991	29960736	996	29982593
	4380		4358
992	29965116	997	29986951
	4375		4353
993	29969492	998	29991305
	4371		4349
994	29973863	999	29995654
	4366		4345
995	29978230	1000	30000000
	4362		4340

CANON

Triangulorum,

OR

A

LOGARITHMICALL
TABLE:

Wherein are set dovvne the
Logarithmes of the Sines, &
Tangents of all the De-
grees, & Minutes of
the Quadrant;

The Logarithme of the *Radius*, or
Semy-diameter beeing
100000000.

By *Edm.* *Gunter* Pro-
fessor of *Astronomy* in
Gresham Colledge.

M.	Sin. 0	Tang. 0
0	0	
1	64637260	64637260
2	67647560	67647561
3	69408473	6940847
4	70657860	70657863
5	71626959	71626964
6	72418771	72418778
7	73088238	73088247
8	73668157	73668169
9	74179681	74179696
10	74637255	74637277
11	75051180	75051203
12	75429064	75429091
13	75776684	75776715
14	76098529	76098565
15	76398160	76397203
16	76678445	76678493
17	76941732	76941785
18	77189966	77180023
19	77424775	77424841
20	77647536	77647610
21	77859427	77859503
22	78061458	78061547
23	78254507	78254604
24	78439338	78439444
25	78616623	78616738
26	78786953	78787077
27	78950854	78950988
28	79108793	79108937
29	79261189	79261344
30	79408418	79408558

Sin. 89	Tang. 89
100000000	Infinitum.
99999999	135362739
99999999	132352438
99999998	130591525
99999997	129342136
99999995	128373035
99999993	127581221
99999991	126911752
99999988	126331831
99999985	125820303
99999981	125362726
99999977	124948797
99999973	124570908
99999969	124223284
99999964	123901434
99999958	123601798
99999953	123321507
99999947	123058214
99999940	122819974
99999933	122575158
99999926	122352389
99999919	122140491
99999911	121938452
99999902	121745395
99999894	121560555
99999885	121383262
99999875	121212922
99999866	121049012
99999856	120891062
99999845	120738656
99999834	120591416

M.	Sin. o	Tang. o
30	79406418	7940858
31	79550819	79550999
32	79688698	79688889
33	79822333	79822533
34	79951979	79952192
35	80077866	80078091
36	80200206	80200445
37	80319194	80319446
38	80435008	80435274
39	80547814	80548193
40	80657763	80658057
41	80764996	80765305
42	80869646	80869970
43	80971832	80972172
44	81071669	81072023
45	81169262	81169634
46	81264709	81265098
47	81358304	81358519
48	81449532	81449955
49	81539075	81539516
50	81626808	81627367
51	81712803	81713281
52	81797129	81797625
53	81879847	81880363
54	81961020	81961555
55	82040702	82041256
56	82118949	82119525
57	82195810	82196407
58	82271335	82271955
59	82345568	82346207
60	82418553	82419214

Sin. 89	Tang. 89
99999834	120591416
99999823	120449004
99999812	120311113
99999800	120177466
99999787	120047808
99999774	119921908
99999761	119799555
99999748	119680553
99999734	119564726
99999720	119451806
99999706	119341942
99999691	119234694
99999675	119130029
99999660	119027827
99999644	118927975
99999628	118830365
99999611	118734901
99999594	118641489
99999576	118550044
99999558	118460483
99999540	118372632
99999522	118286718
99999503	118202374
99999484	118119636
99999464	118038444
99999444	117958741
99999423	117880474
99999403	117803552
99999382	117728046
99999360	117653782
99999338	117580785

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M.	Sin. 1	Tang.ₐ
0	82418553	82419213
1	82490331	82491013
2	82560942	82561643
3	82630423	82631153
4	82698810	82699563
5	82766136	82766913
6	82832433	82833234
7	82897734	82898553
8	82962067	82962916
9	83025460	83026335
10	83087941	83088843
11	83149535	83150463
12	83210268	83211223
13	83270163	83271143
14	83329243	83330243
15	83387529	83388563
16	83445043	83446104
17	83501805	83502893
18	83557834	83558953
19	83613149	83614293
20	83667769	83668943
21	83721709	83722913
22	83774988	83776223
23	83827620	83828883
24	83879621	83880913
25	83931007	83932333
26	83981792	83983153
27	84031990	84033383
28	84081613	84083036
29	84130676	84132133
30	84179190	84180673

Sin. 88	Tang. 88
99999338	117580785
99999316	117508984
99999293	117438351
99999270	117368847
99999247	117300437
99999223	117233087
99999199	117166765
99999175	117101440
99999150	117037083
99999125	116973664
99999099	116911158
99999073	116849537
99999047	116788778
99999020	116728857
99998993	116669750
99998966	116611437
99998938	116553895
99998910	116497105
99998882	116441047
99998853	116385703
99998823	116331054
99998794	116277084
99998764	116223776
99998734	116171113
99998703	116119081
99998672	116067664
99998641	116016848
99998609	115966619
99998576	115916963
99998544	115867868
99998511	115819321

M.	Sin. I	Tang. I	
30	84179190	841806⁎	0
31	84227168	8422868⁎	9
32	84274621	8427617⁎	8
33	84321561	8432318⁎	7
34	84367998	8436962⁎	6
35	84413944	8441560⁎	5
36	84459409	8446110⁎	4
37	84504402	8450613⁎	3
38	84548933	8455069⁎	2
39	84593012	8459481⁎	1
40	84636648	8463848⁎	0
41	84679850	8468017⁎	9
42	84722625	8472453⁎	8
43	84764983	8476669⁎	7
44	84806932	8480891⁎	6
45	84848473	8485050⁎	5
46	84889631	8489166⁎	4
47	84930397	8493252⁎	3
48	84970784	8497292⁎	2
49	85010798	8501298⁎	1
50	85050446	8505267⁎	0
51	85089736	8509200⁎	9
52	85128673	8513097⁎	8
53	85167263	8516961⁎	7
54	85205513	8520795⁎	6
55	85243429	8524589⁎	5
56	85281016	8528348⁎	4
57	85313281	8532077⁎	3
58	85355228	8535778⁎	2
59	85321863	8539444⁎	1
60	85428191	8543088⁎	0

1.	Sin. 88	Tang. 88
0	99998511	115819321
9	99998478	115771310
8	99998444	115723823
7	99998410	115676849
6	99998376	115630377
5	99998341	115584397
24	99998306	115538397
23	99998271	115493868
22	99998235	115449301
21	99998199	115405186
20	99998162	115361513
19	99998125	115318275
18	99998088	115275462
17	99998050	115233066
16	99998012	115191080
15	99997974	115149495
14	99997935	115108303
13	99997896	115067498
12	99997856	115027072
11	99997816	114987018
10	99997776	114947329
9	99997735	114907999
8	99997694	114869021
7	99997653	114830389
6	99997611	114792098
5	99997569	114754140
4	99997527	114716510
3	99997484	114679203
2	99997441	114642212
1	99997397	114605534
0	99997353	114569162

M.	Sin. 2	Tang. 2	
0	85428191	85430838	60
1	85464217	85466908	59
2	85499947	85502683	58
3	85535385	85538168	57
4	85570536	85573362	56
5	85605404	85608276	55
6	85639994	85642912	54
7	85674310	85677274	53
8	85708357	85711368	52
9	85742139	85745197	51
10	85775659	85778765	50
11	85808923	85812076	49
12	85841933	85845135	48
13	85874694	85877945	47
14	85907209	85910509	46
15	85939482	85942832	45
16	85971517	85974915	44
17	86003317	86006766	43
18	86034885	86038385	42
19	86066225	86069776	41
20	86097341	86100943	40
21	86128234	86131888	39
22	86158909	86162615	38
23	86189369	86193127	37
24	86219616	86223427	36
25	86249653	86253517	35
26	86279484	86283402	34
27	86309111	86313082	33
28	86338536	86342562	32
29	86367764	86371844	31
30	86396795	86400931	30

Sin. 87	Tang. 87
99997353	114569162
99997309	114533091
99997264	114497317
99997219	114461834
99997174	114426637
99997128	114391724
99997082	114357088
99997035	114322725
99996988	114288631
99996942	114254802
99996894	114221234
99996846	114187923
99996797	114154864
99996749	114122054
99996700	114089490
99996650	114057167
99996600	114025083
99996550	113993233
99996499	113961614
99996449	113930223
99996397	113899056
99996346	113868111
99996294	113837384
99996241	113806872
99996188	113776572
99996135	113746482
99996032	113716598
99996028	113686917
99995974	113657437
99995919	113628155
99995864	113599068

M.	Sin. 2	Tang. 2
30	86396795	864009311
31	86425634	864298251
32	86454282	864585281
33	86482741	864870441
34	86511015	865153751
35	86539106	865435221
36	86567016	865714891
37	86594748	865992781
38	86622303	866268911
39	86649684	866543331
40	86676893	866815281
41	86703932	867086961
42	86730803	867356221
43	86757510	867623931
44	86784052	867888991
45	86810433	868154311
46	86836654	868417191
47	86862717	868678441
48	86888625	868938131
49	86914378	869196231
50	86939980	869452921
51	86965431	869708091
52	86990733	869961711
53	87015889	870213921
54	87040899	870464641
55	87065765	870713931
56	87090490	870961841
57	87115074	871208331
58	87139520	871453451
59	87163829	871697191
60	87188001	871939551

Sin. 87	Tang. 87
99995864	113599068
99995809	113570175
99995753	113541471
99995697	113512955
99995640	113484625
99995584	113456477
99995527	113428510
99995469	113400721
99995411	113373108
99995353	113345669
99995294	113318401
99995235	113291303
99995176	113264372
99995116	113237606
99995056	113211003
99994995	113184562
99994934	113158280
99994873	113132155
99994812	113106186
99994750	113080371
99994687	113054707
99994625	113029193
99994561	113003828
99994498	112978609
99994434	112953535
99994370	112928604
99994306	112903815
99994241	112879166
99994175	112854655
99994110	112830281
99994044	112806042

E

M.	Sin. ʒ	Tang. ʒ
0	87188001	8719395?
1	87212040	8721806?
2	87235946	8724203?
3	87259720	8726587?
4	87283365	8728953?
5	87306882	8731317?
6	87330271	8733663?
7	87353535	8735999?
8	87376674	8738317?
9	87399691	8740625?
10	87422586	8742922?
11	87445360	8745206?
12	87468015	8747479?
13	87490552	8749740?
14	87512973	8751989?
15	87535278	8754224?
16	87557468	8756451?
17	87579546	8758665?
18	87601511	8760857?
19	87623366	8763064?
20	87645111	8765244?
21	87666747	8767411?
22	87688275	8769577?
23	87709697	8771737?
24	87731013	8773882?
25	87752225	8775999?
26	87773334	8778112?
27	87794340	8780222?
28	87815244	8782311?
29	87836048	8784412?
30	87856752	8786436?

Sin. 86	Tang. 86
99994044	112806042
99993977	112781937
99993910	112757964
99993843	112734123
99993776	112710410
99993708	112686826
99993640	112663368
99993571	112640036
99993502	112616827
99993433	112593742
99993363	112570777
99993293	112547933
99993223	112525207
99993152	112502599
99993081	112480107
99993009	112457731
99992937	112435468
99992865	112413319
99992792	112391280
99992719	112369353
99992646	112347535
99992572	112325825
99992498	112304222
99992423	112282726
99992349	112261335
99992273	112240048
99992198	112218864
99992122	112197782
99992045	112176801
99991969	112155920
99991892	112135139

M.	Sin. 3	Tang. 3
30	87856752	87864860
31	87877358	87885544
32	87897866	87906130
33	87918278	87926619
34	87938593	87947013
35	87958814	87967313
36	87978940	87987518
37	87998974	88007631
38	88018915	88027653
39	88038764	88047582
40	88058523	88067422
41	88078192	88087172
42	88097772	88106834
43	88117263	88126407
44	88136667	88145893
45	88155985	88165293
46	88175216	88184605
47	88194363	88203831
48	88213425	88222983
49	88232403	88242050
50	88251299	88261022
51	88270112	88279934
52	88288843	88298743
53	88307494	88317477
54	88326065	88336130
55	88344557	88354712
56	88362969	88373211
57	88381304	88391633
58	88399560	88409977
59	88417741	88428247
60	88435845	88446431

	Sin. 86		Tang. 86
0	99991892		112135139
9	99991814		112114455
8	99991736		112093869
7	99991658		112073380
6	99991580		112052986
5	09991501		112032686
4	99991421		112012480
3	99991342		111992368
2	99991262		111972347
1	99991181		111952417
0	99991100		111932577
9	99991019		111912827
8	99990938		111893166
7	99990856		111873592
6	99990774		111854106
5	99990691		111834706
4	99990608		111815391
3	99990525		111796161
2	99990441		111777016
1	99990357		111757953
0	99990272		111738973
9	99990188		111720075
8	99990102		111701258
7	99990017		111682522
6	99989931		111663865
5	99989844		111645287
4	99989758		111626788
3	99989671		111608367
2	99989583		111590022
1	99989496		111571754
0	99989407		111553562

E iij

M.	Sin. 4	Tang. 4	M.
0	88435845	88446433	60
1	88453873	88464554	59
2	88471827	88482597	58
3	88489706	88500565	57
4	88507512	88518460	56
5	88525245	88536283	55
6	88542905	88554034	54
7	88560493	88571711	53
8	88578010	88589321	52
9	88595456	88606853	51
10	88612832	88624326	50
11	88630139	88641725	49
12	88647376	88659055	48
13	88664545	88676311	47
14	88681646	88693511	46
15	88698679	88710633	45
16	88715646	88727699	44
17	88732546	88744693	43
18	88749380	88761511	42
19	88766149	88778483	41
20	88782853	88795286	40
21	88799493	88812022	39
22	88816069	88828694	38
23	88832581	88845303	37
24	88849031	88861848	36
25	88865418	88878333	35
26	88881743	88894756	34
27	88898006	88911118	33
28	88914209	88927420	32
29	88930351	88943660	31
30	88946433	88959841	30

M.	Sin. 85	Tang. 85
60	99989408	111553562
59	99989319	111535445
58	99989230	111517403
57	99989141	111499434
56	99989051	111481539
55	99988961	111463716
54	99988871	111445966
53	99988780	111428286
52	99988689	111410678
51	99988597	111393141
50	99988506	111375673
49	99988413	111358274
48	99988321	111340944
47	99988228	111323682
46	99988135	111306488
45	99988041	111289361
44	99987947	111272300
43	99987852	111255306
42	99987758	111238377
41	99987662	111221513
40	99987567	111204713
39	99987471	111187978
38	99987375	111171305
37	99987278	111154696
36	99987181	111138150
35	99987083	111121665
34	99986986	111105243
33	99986888	111088881
32	99986789	111072580
31	99986690	111056339
30	99986591	111040158

E iiij

M.	Sin. 4	Tang. 4	1.
30	88946433	88959841	0
31	88962455	88975963	29
32	88978417	88992026	28
33	88994322	89008030	27
34	89010167	89023977	26
35	89025955	89039866	25
36	89041685	89055697	24
37	89057358	89071472	23
38	89072974	89087190	22
39	89088534	89102853	21
40	89104038	89118460	20
41	89119487	89134012	19
42	89134880	89149508	18
43	89150219	89164951	17
44	89165503	89180340	16
45	89180733	89195675	15
46	89195910	89210957	14
47	89211034	89226186	13
48	89226104	89241362	12
49	89241122	89256487	11
50	89256089	89271551	10
51	89271003	89286581	9
52	89285866	89301551	8
53	89300678	89316471	7
54	89315439	89331343	6
55	89330150	89346160	5
56	89344810	89360929	4
57	89359421	89375649	3
58	89373983	89390321	2
59	89388496	89404943	1
60	89402960	89419511	0

	Sin. 85	Tang. 85
0	99986591	111040158
9	99986492	111024036
8	99986391	111007973
7	99986291	110991969
6	99986190	110976022
5	99986089	110960134
24	99985988	110944302
23	99985886	110928527
22	99985784	110912809
21	99985681	110897146
20	99985578	110881539
19	99985475	110865988
18	99985371	110850491
17	99985267	110835048
16	99985163	110819659
15	99985058	110804324
14	99984953	110789042
13	99984847	110773813
12	99984742	110758637
11	99984635	110743512
10	99984528	110728439
9	99984422	110713418
8	99984314	110698448
7	99984206	110683528
6	99984098	110668659
5	99983920	110653840
4	99983881	110639070
3	99983772	110624350
2	99983662	110609678
1	99983552	110595056
0	99983442	110580482

M.	Sin. 5	Tang. 5
0	89402960	89419517
1	89417375	89434044
2	89431743	89448522
3	89446063	89462954
4	89460335	89477338
5	89474560	89491675
6	89488739	89505966
7	89502871	89520211
8	89516956	89534410
9	89530996	89548564
10	89544990	89562672
11	89558939	89576735
12	89572843	89590754
13	89586702	89604728
14	89600517	89618658
15	89614287	89632544
16	89628013	89646387
17	89641696	89660187
18	89655337	89673944
19	89668934	89687658
20	89682488	89701330
21	89695998	89714949
22	89709467	89728546
23	89722894	89742092
24	89736280	89755597
25	89749624	89769060
26	89762926	89782483
27	89776187	89795864
28	89789408	89809206
29	89802588	89822507
30	89815728	89835769

M	Sin. 84	Tang. 84
60	99983442	110580482
9	99983331	110565955
58	99983220	110551477
57	99983109	110537046
56	99982997	110522661
55	99982885	110508324
54	99982772	110494033
53	99982659	110479788
52	99982546	110465589
51	99982432	110451436
50	99982318	110437327
49	99982204	110423264
48	99982089	110409245
47	99981974	110365271
46	99981858	110381341
45	99981742	110367455
44	99981626	110353612
43	99981509	110339812
42	99981392	110326055
41	99981275	110312341
40	99981157	110298669
39	99981039	110285059
38	99980921	110271453
37	99980802	110257907
36	99980683	110244402
35	99980563	110230939
34	99980443	110217516
33	99980323	110204135
32	99980202	110190793
31	99980081	110177492
30	99979959	110164230

M.	Sin. 5	Tang 5
30	89815728	89835769
31	89828829	89848991
32	89841889	89862173
33	89854909	89875316
34	89867890	89888420
35	89880833	89901486
36	89893737	89914513
37	89906602	89927501
38	89919429	89940454
39	89932217	89953367
40	89944967	89966241
41	89957680	89979081
42	89970356	89991883
43	89982994	90004648
44	89995595	90017375
45	90008159	90030066
46	90020687	90042721
47	90033178	90055340
48	90045633	90067923
49	90058053	90080472
50	90070436	90092984
51	90082784	90105461
52	90095096	90117902
53	90107373	90130310
54	90119615	90142682
55	90131823	90155021
56	90143296	90167325
57	90156134	90179594
58	90168238	90191830
59	90180309	90204033
60	90192345	90216202

M.	Sin. 84	Tang. 84
30	99979959	110164230
29	99979838	110151008
28	99979715	110137826
27	99979593	110124683
26	99979470	110111579
25	99979347	110098513
24	99979223	110085486
23	99979099	110072496
22	99978974	110059545
21	99978850	110046632
20	99978725	110033757
19	99978599	110020918
18	99978473	110008117
17	99978347	109995352
16	99978220	109982624
15	99978093	109969933
14	99977965	109957278
13	99977838	109944659
12	99977710	109932076
11	99977581	109919528
10	99977452	109907016
9	99977323	109894539
8	99977193	109882097
7	99977063	109869690
6	99976933	109857317
5	99976802	109844979
4	99976671	109832675
3	99976540	109820405
2	99976408	109808169
1	99976276	109795967
0	99976143	109783797

M.	Sin. 4	Tang. 4
0	88435845	88446437
1	88453873	88464554
2	88471827	88482597
3	88489706	88500565
4	88507512	88518460
5	88525245	88536283
6	88542905	88554034
7	88560493	88571713
8	88578010	88589321
9	88595456	88606858
10	88612832	88624326
11	88630139	88641725
12	88647376	88659055
13	88664545	88676317
14	88681646	88693511
15	88698679	88710638
16	88715646	88727699
17	88732546	88744693
18	88749380	88761621
19	88766149	88778483
20	88782853	88795266
21	88799493	88812022
22	88816069	88828694
23	88832581	88845303
24	88849031	88861849
25	88865418	88878334
26	88881743	88894756
27	88898006	88911118
28	88914209	88927420
29	88930351	88943660
30	88946433	88959841

M.	Sin. 85	Tang. 85
60	99989408	111553562
59	99989319	111535445
58	99989230	111517403
57	99989141	111499434
56	99989051	111481539
55	99988961	111463716
54	99988871	111445966
53	99988780	111428286
52	99988689	111410678
51	99988597	111393141
50	99988506	111375673
49	99988413	111358274
48	99988321	111340944
47	99988228	111323682
46	99988135	111306488
45	99988041	111289361
44	99987947	111272300
43	99987852	111255306
42	99987758	111238377
41	99987662	111221513
40	99987567	111204713
39	99987471	111187978
38	99987375	111171305
37	99987278	111154696
36	99987181	111138150
35	99987083	111121665
34	99986986	111105243
33	99986888	111088881
32	99986789	111072580
31	99986690	111056339
30	99986591	111040158

E iiij.

M.	Sin. 4	Tang. 4	M.
30	88946433	88959841	30
31	88962455	88975963	29
32	88978417	88992026	28
33	88994322	89008030	27
34	89010167	89023977	26
35	89025955	89039866	25
36	89041685	89055697	24
37	89057358	89071471	23
38	89072974	89087190	22
39	89088534	89102853	21
40	89104038	89118460	20
41	89119487	89134011	19
42	89134880	89149508	18
43	89150219	89164951	17
44	89165503	89180340	16
45	89180733	89195675	15
46	89195910	89210957	14
47	89211034	89226186	13
48	89226104	89241362	12
49	89241122	89256487	11
50	89256089	89271551	10
51	89271003	89286581	
52	89285866	89301551	
53	89300678	89316471	
54	89315439	89331349	
55	89330150	89346160	
56	89344810	89360929	
57	89359421	89375649	
58	89373983	89390321	
59	89388496	89404943	
60	89402960	89419517	

M.	Sin. 85	Tang. 85
30	99986591	111040158
29	99986492	111024036
28	99986391	111007973
27	99986291	110991969
26	99986190	110976022
25	99986089	110960134
24	99985988	110944302
23	99985886	110928527
22	99985784	110912809
21	99985681	110897146
20	99985578	110881539
19	99985475	110865988
18	99985371	110850491
17	99985267	110835048
16	99985163	110819659
15	99985058	110804324
14	99984953	110789042
13	99984847	110773813
12	99984742	110758637
11	99984635	110743512
10	99984528	110728439
9	99984422	110713418
8	99984314	110698448
7	99984206	110683528
6	99984098	110668659
5	99983990	110653840
4	99983881	110639070
3	99983772	110624350
2	99983662	110609678
1	99983552	110595056
0	99983442	110580482

M.	Sin. 5	Tang. 5
0	89402960	89419517
1	89417375	89434044
2	89431743	89448522
3	89446063	89462954
4	89460335	89477338
5	89474560	89491675
6	89488739	89505966
7	89502871	89520211
8	89516956	89534410
9	89530996	89548564
10	89544990	89562672
11	89558939	89576735
12	89572843	89590754
13	89586702	89604728
14	89600517	89618658
15	89614287	89632544
16	89628013	89646387
17	89641696	89660187
18	89655337	89673944
19	89668934	89687658
20	89682488	89701330
21	89695998	89714949
22	89709467	89728546
23	89722894	89742092
24	89736280	89755597
25	89749624	89769060
26	89762926	89782483
27	89776187	89795864
28	89789408	89809206
29	89802588	89822507
30	89815728	89835769

M	Sin. 84	Tang. 84
60	99983442	110580482
59	99983331	110565955
58	99983220	110551477
57	99983109	110537046
56	99982997	110522661
55	99982885	110508324
54	99982772	110494033
53	99982659	110479788
52	99982546	110465589
51	99982432	110451436
50	99982318	110437327
49	99982204	110423264
48	99982089	110409245
47	99981974	110365271
46	99981858	110381341
45	99981742	110367455
44	99981626	110353612
43	99981509	110339812
42	99981392	110326055
41	99981275	110312341
40	99981157	110298669
39	99981039	110285050
38	99980921	110271453
37	99980802	110257907
36	99980683	110244402
35	99980563	110230939
34	99980443	110217516
33	99980323	110204135
32	99980202	110190793
31	99980081	110177492
30	99979959	110164230

M.	Sin. 5	Tang 5
30	89815728	89835769
31	89828829	89848991
32	89841889	89862173
33	89854909	89875316
34	89867890	89888420
35	89880833	89901486
36	89893737	89914513
37	89906602	89927503
38	89919429	89940454
39	89932217	89953367
40	89944967	89966243
41	89957680	89979081
42	89970356	89991883
43	89982994	90004648
44	89995595	90017375
45	90008159	90030066
46	90020687	90042721
47	90033178	90055340
48	90045633	90067923
49	90058053	90080472
50	90070436	90092984
51	90082784	90105461
52	90095096	90117903
53	90107373	90130310
54	90119615	90142682
55	90131823	90155021
56	90143996	90167325
57	90156134	90179594
58	90168238	90191830
59	90180309	90204033
60	90192345	90216202

M.	Sin. 84	Tang. 84
30	99979959	110164230
29	99979838	110151008
28	99979715	110137826
27	99979593	110124683
26	99979470	110111579
25	99979347	110098513
24	99979223	110085486
23	99979099	110072496
22	99978974	110059545
21	99978850	110046632
20	99978725	110033757
19	99978599	110020918
18	99978473	110008117
17	99978347	109995352
16	99978220	109982624
15	99978093	109969933
14	99977965	109957278
13	99977838	109944659
12	99977710	109932076
11	99977581	109919528
10	99977452	109907016
9	99977323	109894539
8	99977193	109882097
7	99977063	109869690
6	99976933	109857317
5	99976802	109844979
4	99976671	109832675
3	99976540	109820405
2	99976408	109808169
1	99976276	109795967
0	99976143	109783797

M.	Sin. 5	Tang. 6
0	90192345	90216202
1	90204348	90228338
2	90216317	90240449
3	90228254	90252510
4	90240157	90264548
5	90252027	90276552
6	90263864	90288524
7	90275669	90300464
8	90287441	90312372
9	90299182	90324249
10	90310890	90336074
11	90322567	90347905
12	90334211	90359638
13	90345824	90371436
14	90357406	90383158
15	90368957	90394848
16	90380477	90406506
17	90391966	90418134
18	90403424	90429731
19	90414852	90441298
20	90425249	90452836
21	90437616	90464341
22	90448954	90475821
23	90460261	90487270
24	90471538	90498689
25	90482786	90510079
26	90494004	90521439
27	90505194	90532771
28	90516354	90544073
29	90527485	90555349
30	90538587	90566593

M.	Sin. 83	Tang. 83
60	99976143	109783797
59	99976010	109771662
58	99975877	109759559
57	99975743	109747489
56	99975609	109735452
55	99975475	109723447
54	99975340	109711475
53	99975204	109699535
52	99975069	109687627
51	99974933	109675751
50	99974797	109663906
49	99974660	109652093
48	99974523	109640311
47	99974386	109628561
46	99974248	109616841
45	99974110	109605152
44	99973971	109593493
43	99973832	109581866
42	99973693	109570268
41	99973553	109558701
40	99973413	109547164
39	99973273	109535656
38	99973132	109524178
37	99972991	109512730
36	99972849	109501311
35	99972707	109489921
34	99972565	109478560
33	99972423	109467228
32	99972279	109455925
31	99972136	109444651
30	99971992	109433405

M.	Sin. 6	Tang 6
30	90538587	90566594
31	90549661	90577812
32	90560706	90589002
33	90571723	90600164
34	90582721	90611297
35	90593672	90622404
36	90604604	90633482
37	90615508	90644532
38	90626385	90655556
39	90637235	90666553
40	90648057	90677522
41	90658852	90688465
42	90669619	90699381
43	90680359	90710269
44	90691073	90721132
45	90701760	90731969
46	90712421	90742779
47	90723055	90753563
48	90733662	90764321
49	90744243	94775053
50	90754799	90785759
51	90765328	90796440
52	90775832	90807096
53	90786310	90817726
54	90796762	90828331
55	90807188	90838910
56	90817590	90849466
57	90827966	90859995
58	90838317	90870500
59	90848643	90880981
60	90858944	90891437

30

	Sin 83	Tang. 83
30	99973992	109433405
29	99971848	109422187
28	99971704	109410998
27	99971559	109389836
26	99971414	109388702
25	99971268	109377586
24	99971122	109366518
23	99970976	109355467
22	99970829	109344444
21	99970682	109333447
20	99970534	109322477
19	99970387	109311534
18	99970238	109300619
17	99970090	109289730
16	99969941	109278867
15	99969791	109268031
14	99969642	109257220
13	99969492	109246436
12	99969341	109235679
11	99969191	109224947
10	99969039	109214240
	99968888	109203559
	99968736	109192903
	99968583	109182273
	99968431	109171669
	99968278	109161089
	99968124	109150534
	99967970	109140004
	99967816	109129499
	99967662	109119018
	99967507	109108563

F

M.	Sin. 7	Tang. 7
0	90858944	90891437
1	90869221	90901869
2	90879473	90912277
3	90889700	90922665
4	90899903	90933020
5	90910082	90943355
6	90920236	90953667
7	90930367	90963955
8	90940473	90974217
9	90950556	90984460
10	90960615	90994670
11	90970650	91004872
12	90980662	91015048
13	90990651	91025172
14	93000616	91035317
15	91010558	91045430
16	91020477	91055500
17	91030373	91065555
18	91040246	91075591
19	92050096	91085624
20	91059924	91095594
21	91069729	91105563
22	91079511	91115507
23	91089272	91125431
24	91099010	91135333
25	91108726	91145211
26	91118420	91155073
27	91128091	91164901
28	91137741	91174722
29	91147370	91184518
30	91156976	91194291

M.	Sin. 82	Tang. 82
60	99967507	109108562
59	99967351	109098130
58	99967196	109087723
57	99967040	109077339
56	99966883	109066980
55	99966727	109056644
54	99966569	109046333
53	99966412	109036045
52	99966254	109025780
51	99966096	109015539
50	99965937	109005322
49	99965778	108995127
48	99965619	108984956
47	99965459	108974808
46	99965299	108964682
45	99965138	108954580
44	99964977	108944500
43	99964816	108934443
42	99964654	108924408
41	99964492	108914395
40	99964330	108904405
39	99964167	108894438
38	99964004	108884492
37	99963840	108874568
36	99963677	108864666
35	99963512	108854786
34	99963348	108844928
33	99963183	108835091
32	99963017	108825275
31	99962851	108815483
30	99962685	108805709

M.	Sin. 7	Tang. 7
30	91156976	91194277
31	91166563	91204041
32	91176125	91213777
33	91185667	91223483
34	91195188	91233171
35	91204688	91242831
36	91214165	91252465
37	91223624	91262111
38	91233061	91271717
39	91242476	91281309
40	91251871	91290066
41	91261246	91300411
42	91270600	91309937
43	91279933	91319441
44	91289246	91328921
45	91298539	91338393
46	91307812	91347833
47	91317064	91357240
48	91326296	91366550
49	91335509	91376050
50	91344702	91385411
51	91353874	91394770
52	91363027	91404227
53	91372161	91413702
54	91381275	91422681
55	91390369	91431959
56	91399445	91441212
57	91408500	91450441
58	91417537	91459651
59	91426554	91468841
60	91435553	91478021

M.	Sin. 82	T. ng. 82
30	99962685	108805709
29	99962519	108795957
28	99962352	108786227
27	99962185	108776517
26	99962017	108766829
25	99961849	108757161
24	99961681	108747514
23	99961512	108737888
22	99961343	108728282
21	99961173	108718696
20	99961003	108709111
19	99960833	108699587
18	99960663	108690062
17	99960492	108680558
16	99960320	108671073
15	99960148	108661609
14	99959976	108652164
13	99959804	108642739
12	99959631	108633334
11	99959458	108623948
10	99959284	108614582
9	99959110	108605239
8	99958936	108595908
7	99958761	108586600
6	99958586	108577311
5	99958410	108568040
4	99958235	108558790
3	99958058	108549558
2	99957882	108540345
1	99957905	108531150
0	99957527	108521974

M.	Sin. 8	Tang 8
0	91435553	91478025
1	91444532	91487182
2	91453493	91496321
3	91462434	91505441
4	91471358	91514543
5	91480262	91523627
6	91489148	91532692
7	91498015	91541739
8	91506863	91550768
9	91515694	91559779
10	91524506	91568771
11	91533300	91577748
12	91542076	91586706
13	91550834	91595646
14	91559574	91604562
15	91568295	91613471
16	91576999	91622361
17	91585686	91631230
18	91524354	91640081
19	91603005	91648913
20	91611638	91657732
21	91620254	91666537
22	91628852	91675321
23	91637433	91684088
24	91645997	91692839
25	91654544	91701572
26	91663073	91710288
27	91671585	91718988
28	91680081	91727671
29	91688559	91736638
30	91697020	91744988

0	99957527	108521974
9	99957350	108512817
8	99957172	108503679
7	99956993	108494558
6	99956814	108485456
5	99956635	108476373
4	99956455	108467307
3	99956275	108458260
2	99956095	108449231
1	99955914	108440220
0	99955733	108431227
49	99955552	108422251
48	99955370	108413293
47	99955188	108404353
46	99955005	108395431
45	99954822	108386526
44	99954639	108377669
43	99954455	108368769
42	99954271	108359916
41	99954086	108351081
40	99953901	108342263
	99953716	108333462
	99953531	108324678
	99953345	108315911
	99953158	108307161
	99952972	108298427
	99952784	108289711
	99952597	108281011
	99952409	108272328
	99952221	108263661
	99952032	108255011

M.	Sin. 8	Tang 8
30	91697020	91744988
31	91705465	91753622
32	91713893	91762233
33	91722304	91770643
34	91730699	91779424
35	91739077	91787993
36	91747438	91796545
37	91755783	91805081
38	91764112	91813602
39	91772424	91822106
40	91780721	91830595
41	91789000	91838066
42	91797264	91847524
43	91805512	91855965
44	91813744	91864391
45	91821959	91872801
46	91830160	91881196
47	91838344	91889575
48	91846512	91897939
49	91854664	91906287
50	91862801	91914620
51	91870923	91922938
52	91879029	91931241
53	91887119	91939529
54	91895194	91947801
55	91903254	91956059
56	91911298	91964301
57	91919327	91972530
58	91927341	91980741
59	91935340	91988941
60	91943324	91997125

Sin. 81	Tang. 8 ?
99952032	108255011
99951843	108246377
99951654	108237760
99951464	108229159
99951274	108220575
99951084	108212006
99950893	108203454
99950702	108194918
99950510	108186398
99950318	108177893
99950125	108169404
99949933	108160932
99949739	108152475
99949546	108144034
99949352	104135608
99949158	108127198
99948963	108118803
99948768	108110424
99948573	108102061
99948377	108093712
99948181	108085379
99947984	108077061
99947787	108068758
98947590	108060470
99947393	108052198
99947195	108043940
99946996	108035697
99946797	108027470
99946598	108019256
99946329	108011058
99946199	108002874

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M.	Sin. 9	Tang 9
0	91943324	91997125
1	91951293	92005294
2	91959246	92013448
3	91967185	92021588
4	91975109	92029715
5	91983019	92037825
6	91990913	92045921
7	91998793	92054004
8	92006658	92062072
9	92014509	92070125
10	92022345	92078165
11	92030166	92086191
12	92037973	92094202
13	92045766	92102205
14	92053544	92110181
15	92061309	92118151
16	92069058	92126104
17	92076794	92134051
18	92084516	92141974
19	92092224	92149895
20	92099917	92157795
21	92107597	92165682
22	92115262	92173555
23	92122914	92181418
24	92130552	92189265
25	92138176	92197092
26	92145787	92204917
27	92153383	92212726
28	92160966	92220518
29	92168536	92228296
30	92176092	92236069

	Sin. 80	Tang. 80
0	99946199	108002874
9	99945998	107994705
8	99945798	107986551
7	99945597	107978411
6	99945396	107970286
5	99945194	107962175
4	99944992	107954078
3	99944789	107945996
2	99944586	107937928
1	99944383	107929874
0	99944179	107921834
9	99943975	107913809
8	99943771	107905797
7	99943566	107897799
6	99943361	107889816
5	99943155	107881846
4	99942949	107873890
3	99942743	107865948
2	99942536	107858020
1	99942329	107850105
0	99942121	107842204
9	99941914	107834317
8	99941706	107826443
7	99941497	107818583
6	99941288	107810736
5	99941079	107802902
4	99940869	107795082
3	99940659	107787275
2	99940449	107779482
1	99940238	107771701
0	99940027	107763934

M.	Sin. 9	Tang. 9
30	92176092	9223606
31	92183634	9224381
32	92191163	9225160
33	92198679	9225928
34	92206182	9226700
35	92213671	9227470
36	92221146	9228239
37	92228609	9229007
38	92236058	9229773
39	92243494	9230538
40	92250918	9231302
41	92258328	9232064
42	92265725	9232826
43	92273109	9233586
44	92280480	9234345
45	92287839	9235102
46	92295184	9235858
47	92302517	9236613
48	92309838	9237367
49	92317145	9238120
50	92324440	9238871
51	92331722	9239621
52	92338992	9240370
53	92346249	9241111
54	92353494	9241864
55	92360726	9242610
56	92367946	9243354
57	92375153	9244097
58	92388348	9244838
59	92389531	9245578
60	92396702	9246318

Sin. 80	*Tang.* 80
99940027	107763934
99939815	107756180
99939603	107748439
99939391	107740711
99939178	107732996
99938965	107725294
99938751	107717605
99938537	107709928
99938323	107702265
99938109	107694614
99937893	107686975
99937678	107679350
99937462	107671737
99937246	107664137
99937030	107656549
99936813	107648974
99936596	107641411
99936378	107633860
99936160	107626322
99935942	107618796
99935723	107611283
99935504	107603781
99935284	107596292
99935064	107588815
99934844	107581350
99934623	107573897
99934402	107566456
99934181	107559027
99933959	107551610
99933737	107544205
99933514	107536812

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M.	Sin. 10	Tang. 10
0	92396702	92463187
1	92403861	92470569
2	92411007	92477939
3	92418141	92485296
4	92425263	92492643
5	92432373	92499977
6	92439472	92507300
7	92446558	92514611
8	92453632	92521911
9	92460695	92529200
10	92467745	92576477
11	92474784	92543743
12	92481811	92550997
13	92488826	92558240
14	92495830	92565471
15	92502822	92572691
16	92509802	92579900
17	92516771	92587091
18	92523729	92594283
19	92530674	92601461
20	92537609	92608625
21	92544532	92615777
22	92551443	92622921
23	92558343	92630051
24	92565232	92637171
25	92572110	92644283
26	92578976	92651382
27	92585831	92658469
28	92592675	92665547
29	92599508	92672613
30	92606330	92679669

Sin. 79	Tang. 79
99933514	107536812
99933291	107529430
99933068	107522061
99932844	107514703
99932620	107507356
99932396	107500022
99932171	107492699
99931946	107485387
99931720	107478087
99931494	107470799
99931268	107463522
99931041	107456257
99930814	107449002
99930586	107441759
99930358	107434528
99930130	107427308
99929902	107420099
99929673	107412901
99929443	107405714
99929213	107398538
99928983	107391374
99928753	107384221
99928522	107377078
99928290	107369947
99928059	107362826
99927827	107355716
99927594	107348618
99927362	107341530
99927128	107334452
99926895	107327386
99926661	107320330

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M.	Sin. 10	Tang. 10
30	92606330	92679669
31	92613141	92686714
32	92619940	92693748
33	92626729	92700772
34	92633507	92707785
35	92640274	92714788
36	92647029	92721780
37	92653775	92728762
38	92660509	92735733
39	92667232	92742694
40	92673945	92749644
41	92680646	92756584
42	92687338	92763514
43	92694019	92770433
44	92700689	92777343
45	92707348	92784241
46	92713996	92791130
47	92720634	92798009
48	92727262	92804877
49	92733880	92811736
50	92740487	92818584
51	92747083	92825423
52	92753669	92832251
53	92760245	92839070
54	92766810	92845878
55	92773365	92852677
56	92779910	92859465
57	92786445	92866244
58	92792969	92873013
59	92799484	92879772
60	92805988	92886521

Sin.79	Tang.79
99926661	107320330
99926427	107313285
99926192	107306251
99925957	107299227
99925721	107292214
99925485	107285211
99925249	107278219
99925013	107271238
99924776	107264266
99924538	107257306
99924300	107250355
99924062	107243415
99923824	107236485
99923585	107229566
99923346	107222657
99923106	107215758
99922866	107208869
99922625	107201991
99922385	107195122
99922143	107188263
99921902	107181415
99921660	107174577
99921418	107167748
99921175	107160930
99920932	107154121
99920688	107147322
99920445	107140534
99920200	107133755
99919956	107126986
99919711	107120227
99919465	107113477

M.	Sin. 11	Tang. 11
0	92805988	92886522
1	92812482	92893262
2	92818966	92899992
3	92825440	92906713
4	92831904	92913424
5	92838359	92920125
6	92844803	92926817
7	92851237	92933499
8	92857661	92940172
9	92864075	92946835
10	92870480	92953489
11	92876875	92960134
12	92883260	92966768
13	92889635	92973394
14	92896001	92980010
15	92902357	92986617
16	92908703	92993215
17	92915040	92999804
18	92921367	93006383
19	92927684	93012953
20	92933992	93019514
21	92940291	93026066
22	92946580	93032609
23	92952859	93039142
24	92959129	93045667
25	92965390	93052182
26	92971641	93058689
27	92977883	93065186
28	92984116	93071675
29	92990339	93078155
30	92996553	93084626

M.	Sin. 78	Tang. 78
60	99919465	107113477
59	99919220	107106737
58	99918973	107100007
57	99918727	107093286
56	99918480	107086575
55	99918233	107079874
54	99917985	107073182
53	99917737	107066500
52	99917489	107059827
51	99917240	107053164
50	99916991	107046510
49	99916741	107039866
48	99916491	107033231
47	99916241	107026605
46	99915990	107019989
45	99915739	107013382
44	99915487	107006784
43	99915236	107000195
42	99914983	106993616
41	99914731	106987046
40	99914478	106980485
39	99914224	106973933
38	99913971	106967390
37	99913716	106960857
36	99913462	106954332
35	99913207	106947817
34	99912952	106941310
33	99912696	106934813
32	99912440	106928324
31	99912183	106921844
30	99911927	106915374

M.	Sin. 11	Tang. 11
30	92996553	93084626
31	93002757	93091088
32	93008953	93097541
33	93015139	93103985
34	93021317	93110421
35	93027485	93116847
36	93033643	93123265
37	93039793	93129675
38	93045934	93136076
39	93052066	93142463
40	93058189	93148851
41	93064302	93155226
42	93070407	93161592
43	93076503	93167959
44	93082590	93174299
45	93088668	93180639
46	93094737	93186971
47	93100797	93193295
48	93106849	93199610
49	93112892	93205917
50	93118926	93212216
51	93124951	93218506
52	93130967	93224788
53	93136975	93231062
54	93142974	93237326
55	93148965	93243583
56	93154947	93249832
57	93160920	93256072
58	93166885	93262305
59	93172841	93268529
60	93178789	93274745

M.	Sin. 78	Tang. 78
30	99911927	106915374
29	99911669	106908912
28	99911412	106902459
27	99911154	106896014
26	99910895	106889578
25	99910637	106883152
24	99910378	106876734
23	99910118	106870324
22	99909858	106863924
21	99909598	106857532
20	99909337	106851148
19	99909076	106844774
18	99908815	106838407
17	99908553	106832050
16	99908291	106825701
15	99908028	106819360
14	99907765	106813028
13	99907502	106806704
12	99907238	106800389
11	99906974	106794082
10	99906710	106787784
9	99906445	106781493
8	99906179	106775212
7	99905914	106768938
6	99905648	106762673
5	99905381	106756416
4	99905115	106750167
3	99904847	106743927
2	99904580	106737694
1	99904312	106731470
0	99904044	106725254

M.	Sin. 12	Tang. 11
0	93178789	93274745
1	93184728	93280955
2	93190659	93287155
3	93196582	93293344
4	93202495	93299528
5	93208400	93305704
6	93214297	93311871
7	93220186	93318031
8	93226066	93324183
9	93231938	93330326
10	93237802	93336462
11	93243657	93342592
12	93249504	93348712
13	93255343	93354825
14	93261174	93360927
15	93266996	93367024
16	93272811	93373112
17	93278617	93379194
18	93284415	93385267
19	93290205	93391333
20	93295987	93397391
21	93301761	93403442
22	93307527	93409489
23	93313285	93405511
24	93319035	93421545
25	93324777	93427566
26	93330511	93433579
27	93336236	93439583
28	93341955	93444580
29	93347665	93451575
30	93353367	93457555

M.	Sin. 77	Tang. 77
0	99904044	106725254
9	99903775	106719046
8	99903506	106712847
7	99903236	106706655
6	99902966	106700478
5	99902696	106694296
4	99902425	106688128
3	99902154	106681968
2	99901883	106675817
1	99901611	106669673
0	99901339	106663537
9	99901066	106657409
8	99900794	106651289
7	99900520	106645177
6	99900247	106639072
5	99899972	106632976
4	99899698	106626887
3	99899423	106620806
2	99899148	106614732
1	99898872	106608666
0	99898596	106602608
9	99898320	106596558
8	99898043	106590516
7	99897766	106584481
6	99897488	106578453
5	99897210	106572433
	99896932	106566421
	99896653	106560416
	99896374	106554419
	99896095	106548429
	99895815	106542447

M.	Sin. 12	Tang. 12
30	93353367	93457552
31	83359062	93463527
32	93364748	93469494
33	93370427	93475454
34	93376098	93481407
35	93381762	93487352
36	93387417	93493290
37	93393065	93499220
38	93398705	93505143
39	93404338	93511059
40	93409963	93516968
41	93415580	93522869
42	93421189	93528763
43	93426791	93534650
44	93432386	93540529
45	93437972	93546402
46	93443552	93552267
47	93449123	93558125
48	93454688	93563976
49	93460244	93569820
50	93465794	93575657
51	93471336	93581487
52	93476870	93587310
53	93482397	93593126
54	93487917	93598934
55	93493429	93604736
56	93498934	93610531
57	93504431	93616319
58	93509921	93622100
59	93515404	93627874
60	93520880	93633641

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Sin. 77	Tang. 77
99895815	106542447
99895534	106536472
99895254	106530505
99894973	106524545
99894691	106518593
99894430	106512647
99894127	106506710
99893845	106500779
99893562	106494856
99893278	106488940
99892995	106483032
99892711	106477130
99892426	106471236
99892141	106465349
99891856	106459470
99891570	106453597
99891284	106447732
99890998	106441874
99890711	106436023
99890424	106430179
99890136	106424342
99889848	106418512
99889560	106412689
99889271	106406874
99888982	106401065
99888692	106395263
99888402	106389468
99888112	106383681
99887821	106377900
99887530	106372126
99887239	106366358

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M.	Sin. 13	Tang.
0	93520880	9363364
1	93526348	9363947
2	93531809	9364511
3	93537263	9365092
4	93542710	9365664
5	93548150	9366221
6	93553582	9366800
7	93559007	9367381
8	93564425	9367951
9	93569836	9368521
10	93575240	9369092
11	93580637	9369462
12	93586026	9370232
13	93591409	9370752
14	93596785	9371342
15	93602153	9371912
16	93607515	9372342
17	93612869	9373044
18	93618217	9373622
19	93623558	9374192
20	93628892	9374752
21	93634218	9375318
22	93639538	9375882
23	93644852	9376442
24	93650158	9377000
25	93655457	9377562
26	92660750	9378122
27	93666036	9378681
28	93671315	9379232
29	93676587	9379792
30	93681852	9380352

Sin. 76	Tang. 76
99887239	106366359
99886947	106360598
99886655	106354845
99886362	106349098
99886069	106343359
99885776	106337626
99885482	106331900
99885188	106326180
99884893	106320468
99884598	106314762
99884303	106309063
99884007	106303370
99883711	106297684
99883415	106292005
99883118	106286333
99882820	106280667
99882523	106275008
99882225	106269355
99881926	106263709
99881627	106258069
99881328	106252436
99881029	106246810
99880729	106241190
99880428	106235576
99880128	106229969
99879826	106224369
99879525	106218775
99879223	106213187
99878921	106207605
99878618	106202031
99878315	106196462

M.	Sin. 1 3	Tang. 1 3
30	93681852	9380355??
31	93687111	9380909??
32	93692363	9381465??
33	93697608	9382020??
34	93702847	9382574??
35	93708079	9383128??
36	93713304	9383681??
37	93718522	9384234??
38	93723734	9384787??
39	93728940	9385337??
40	93734138	9385889??
41	93739331	9386435??
42	93744516	9386986??
43	93739695	9387533??
44	93754868	9388087??
45	93760034	9388631??
46	93765193	9389171??
47	93770346	9389711??
48	93775493	9390277??
49	93780533	9390533??
50	93785766	9391133??
51	93790893	9391923??
52	93796014	9392443??
53	93801129	9392933??
54	93806237	9393533??
55	93811338	9394033??
56	93816434	9394613??
57	93821522	9395133??
58	93826605	9395663??
59	93831681	9396233??
60	93836751	9396733??

	Sin. 76	Tang. 76
	99878315	106196462
9	99878011	106190900
8	99877707	106185344
7	99877403	106179795
6	99877098	106174251
5	99876793	106168714
4	99876488	106163184
3	99876182	106157659
2	99875876	106152141
1	99875569	106146629
0	99875262	106141124
9	99874955	106135624
8	99874647	106130131
7	99874339	106124643
6	99874031	106119162
5	99873722	106113687
4	99873412	106108219
3	99873103	106102756
2	99872792	106097299
1	99872482	106091849
0	99872171	106086404
9	99871860	106080966
8	99871548	106075533
7	99871236	106070107
6	99870924	106064687
5	99870611	106059272
4	99870298	106053863
3	99869984	106048461
2	99869670	106043064
1	99869356	106037674
0	99869041	106032289

M.	Sin. 14	Tang. 14
0	93836751	93967710
1	93841815	93973089
2	93846873	93978462
3	93851924	93983829
4	93856969	93989191
5	93862008	93994546
6	93867040	93999896
7	93872066	94005240
8	93877087	94010578
9	93882101	94015910
10	93887108	94021237
11	93892110	94026557
12	93897106	94031873
13	93902095	94037182
14	93907079	94042486
15	93912056	94047784
16	93917027	94053076
17	93921993	94058363
18	93926952	94063644
19	93931905	94068919
20	93936852	94074189
21	93941793	94079453
22	93946728	94084711
23	93951658	94089964
24	93956581	94095211
25	93961498	94100454
26	93966410	94105690
27	93971315	94110921
28	93976215	94116146
29	93981108	94121366
30	93985996	94126580

M.	Sin. 75	Tang. 75
60	99869041	106032289
59	99868726	106026910
58	99868410	106021537
57	99868094	106016170
56	99867778	106010808
55	99867461	106005453
54	99867144	106000103
53	99866826	105994760
52	99866508	105989421
51	99866190	105984089
50	99865872	105978763
49	99865552	105973442
48	99865233	105968127
47	99864913	105962817
46	99864593	105957514
45	99864272	105952216
44	99863951	105946923
43	99863630	105941637
42	99863308	105936356
41	99862986	105931080
40	99862663	105925810
39	99862340	105920546
38	99862017	105915288
37	99861693	105910035
36	99861369	105904787
35	99861044	105899545
34	99860719	105894309
33	99860394	105889078
32	99860068	105883853
31	99859742	105878633
30	99859416	105873419

M.	Sin. 14	Tang. 14
30	93985996	94126580
31	93990878	94131789
32	93995754	94136992
33	94000624	94142190
34	94005489	94147383
35	94010347	94152570
36	94015200	94157752
37	94020047	94162929
38	94024889	94168099
39	94029724	94173264
40	94034554	94178423
41	94039378	94183579
42	94044196	94188727
43	94049009	94193873
44	94053816	94199013
45	94058617	94204146
46	94063412	94209274
47	94068202	94214397
48	94072987	94219515
49	94077765	94224627
50	94082538	94229735
51	94087306	94234837
52	94092067	94239934
53	94096824	94245026
54	94101574	94250113
55	94106319	94255194
56	94111059	94260271
57	94115793	94265343
58	94120521	94270409
59	94125244	94275470
60	94129962	94280526

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99859416	105873419
99859089	105868210
99858761	105863007
99858434	105857809
99858106	105852616
99857777	105847429
99857448	105842248
99857119	105837071
99856789	105831900
99856459	105826735
99856129	105821575
99855798	105816420
99855467	105811270
99855135	105806126
99854803	105800987
99854471	105795853
99854138	105790725
99853805	105785602
99853471	105780484
99853137	105775372
99852803	105770264
99852468	105765162
99852133	105760065
99851797	105754973
99851461	105749887
99851125	105744805
99850788	105739729
99850451	105734658
99850114	105729592
99849776	105724531
99849437	105719475

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M.	Sin. 15	Tang. 15
0	94129962	94280524
1	94134674	94285575
2	94139380	94290620
3	94144082	94295661
4	94148777	94300697
5	94153467	94305729
6	94158152	94310755
7	94162831	94311777
8	94167505	94320788
9	94172174	94325799
10	94176837	94330304
11	94181495	94335809
12	94186147	94340808
13	94190794	94345791
14	94195436	94350779
15	94200073	94355759
16	94204704	94360739
17	94209329	94365709
18	94213950	94370689
19	94218565	94375659
20	94223175	94380586
21	94227780	94385559
22	94232380	94390484
23	94236974	94395478
24	94241563	94400368
25	94246147	94405298
26	94250725	94410222
27	94255299	94415148
28	94259867	94420059
29	94264430	94424977
30	94268988	94429887

	Sin. 74	Tang. 74
0	99849437	105719475
9	99849099	105714424
8	99848760	105709379
7	99848420	105704338
6	99848080	105699303
	99847740	105694272
	99847399	105689247
	99847058	105684226
	99846717	105679211
	99846375	105674201
	99846033	105669195
	99845690	105664195
	99845347	105659199
	99845003	105654209
	99844660	105649223
	99844315	105644242
	99843971	105639267
	99843626	105634296
	99843280	105629330
	99842935	105624369
	99842588	105619413
	99842242	105614461
	99841895	105609515
	99841548	105604573
	99841200	105599637
	99840852	105594705
	99840503	105589777
	99840154	105584855
	99839805	105579937
	99839455	105575024
	99839105	105570116

M.	Sin. 15	Tang. 15
30	94268988	9447298.
31	94273541	9447476.
32	94278088	9443940.
33	94282631	9444407.
34	94287168	9444745.
35	94291701	9445455.
36	94296228	9445922.
37	94300750	9446441.
38	94305267	9446860.
39	94309777	9447326.
40	94314284	9447794.
41	94318788	9448255.
42	94323285	9448644.
43	94327777	9449193.
44	94332263	9449611.
45	94336745	9450072.
46	94341222	9450.
47	94345694	9451266.
48	94350161	9451740.
49	94354623	9452222.
50	94359080	9452570.
51	94363532	9453100.
52	94367979	9453660.
53	94372421	9454140.
54	94376859	9454600.
55	94381291	9455100.
56	94385719	9455550.
57	94390141	9456060.
58	94394559	9456540.
59	94398972	9457010.
60	94403380	9457470.

Sin. 74	Tang. 74
99839105	105570116
99838754	105565213
99838403	105560314
99838052	105555421
99837700	105550531
99837348	105545647
99836996	105540767
99836643	105535892
99836289	105531022
99835936	105526156
99835581	105521295
99835227	105516439
99834872	105511587
99834517	105506740
99834161	105501897
99833805	105497059
99833449	105492226
99833092	105487397
99832734	105482573
99832377	105477753
99832019	105472938
99831660	105468128
99831301	105463322
99830942	105458520
99830582	105453723
99830222	105448930
99829862	105444142
99829501	105439359
99829140	105434580
99828778	105429805
99828416	105425035

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M.	Sin. 16	Tang. 16
0	94403380	94574964
1	94407784	94579730
2	94412182	94584491
3	94416576	94589248
4	94420964	94594000
5	94425348	94598748
6	94429728	94603492
7	94434102	94608231
8	94438472	94612966
9	94442837	94617697
10	94447197	94622423
11	94451552	94627145
12	94455903	94631862
13	94460249	94636576
14	94464590	94641285
15	94468927	94645989
16	94473259	94650690
17	94477586	94655386
18	94481909	94660077
19	94486226	94664765
20	94490540	94669448
21	94494848	94674127
22	94499152	94678802
23	94503451	94683472
24	94507746	94688131
25	94512036	94692801
26	94516322	94697459
27	94520603	94702111
28	94524879	94706762
29	94529150	94711407
30	94533418	94716050

Sin. 73	Tang. 73
99828416	105425035
99828053	105420269
99827691	105415508
99827327	105410751
99826964	105405999
99826600	105401251
99826235	105396507
99825870	105391768
99825505	105387033
99825140	105382302
99824774	105377576
99824407	105372854
99824040	105368137
99823673	105363423
99823305	105358715
99822937	105354010
99822569	105349310
99822200	105344614
99821831	105339922
99821461	105335234
99821091	105330551
99820721	105325872
99820350	105321198
99819979	105316527
99819607	105311861
99819235	105307199
99818863	105302541
99818490	105297887
99818117	105293238
99817743	105288592
99817369	105283951

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M.	Sin. 16	Tang. 16
30	94533418	94716048
31	94537680	94720685
32	94541938	94725313
33	94546192	94729947
34	94550441	94734571
35	94554685	94739192
36	94558925	94743833
37	94563161	94748420
38	94567392	94753028
39	94571618	94757633
40	94575840	94762233
41	94580053	94766823
42	94584271	94771423
43	94588479	94776008
44	94592683	94780577
45	94596883	94785173
46	94601078	94789773
47	94605269	94794313
48	94609456	94798885
49	94613638	94803453
50	94617816	94808001
51	94621989	94812565
52	94626158	94817113
53	94630323	94821663
54	94634483	94826223
55	94638638	94830743
56	94642790	94835293
57	94646937	94839843
58	94651080	94844413
59	94655219	94848883
60	94659353	94853533

Sin 73	Tang 73
99817369	105283951
99816995	105279314
99816620	105274681
99816245	105270053
99815869	105265428
99815493	105260807
99815117	105256191
99814740	105251579
99814363	105246971
99813985	105242367
99813607	105237767
99813229	105233171
99812850	105228579
99812471	105223991
99812091	105219407
99811711	105214827
99811331	105210252
99810950	105205680
99810569	105201112
99810187	105196549
99809805	105191989
99809423	105187433
99809040	105182881
99808657	105178334
99808273	105173790
99807889	105169250
99807504	105164714
99807120	105160182
99806734	105155654
99806349	105151130
99805963	105146609

M.	Sin. 17	Tang. 17
0	94659353	94853390
1	94663483	94857906
2	94667609	94862419
3	94671730	94866927
4	94675847	94871432
5	94679960	94875933
6	94684069	94880430
7	94688173	94884923
8	94692273	94889412
9	94696369	94893898
10	94700460	94898380
11	94704548	94902858
12	94708631	94907332
13	94712710	94911802
14	94716785	94916268
15	94720856	94920731
16	94724922	94925190
17	94728984	94929645
18	94733042	94934097
19	94737096	94938544
20	94741146	94942988
21	94745192	94947428
22	94749233	94951865
23	94753271	94956297
24	94757304	94960726
25	94761333	94965152
26	94765358	94969573
27	94769379	94973991
28	94773396	94978405
29	94777409	94982816
30	94781418	94987223

Sin. 72	Tang. 72
99805963	105146609
99805576	105142093
99805189	105137580
99804802	105133072
99804415	105128567
99804027	105124066
99803638	105119569
99803249	105115076
99802860	105110587
99802470	105106101
99802080	105101619
99801690	105097142
99801299	105092668
99800908	105088197
99800516	105083731
99800124	105079268
99799732	105074809
99799339	105070354
99798945	105065903
99798552	105061455
99798158	105057011
99797763	105052578
99797368	105048135
99796973	105043702
99796577	105039273
99796181	105034848
99795785	105030426
99795388	105026008
99794990	105021594
99794593	105017183
99794195	105012777

M.	Sin. 17	Tang. 17
30	94781418	94937223
31	94785422	94991626
32	94789423	94996025
33	94793420	95000421
34	94797412	95004814
35	94801401	95009203
36	94805385	95013587
37	94809365	95017969
38	94813342	95022346
39	94817314	95026721
40	94821283	95031091
41	94825247	95035458
42	94829208	95039822
43	94833164	95044182
44	94837117	95048538
45	94841065	95052891
46	94845010	95057240
47	94848951	95061586
48	94852887	95065928
49	94856820	95070266
50	94860749	95074601
51	94864674	95078933
52	94868595	95083261
53	94872512	95087586
54	94876425	95091908
55	94880335	95096224
56	94884240	95100538
57	94888142	95104849
58	94892039	95109156
59	94895933	95113460
60	94899823	95117762

Sin. 72	Tang. 72
99794195	105012777
99793796	105008373
99793397	105003974
99792998	104999578
99792598	104995186
99792198	104990797
99791797	104986412
99791396	104982030
99790995	104977653
99790593	104973279
99790191	104968908
99789789	104964541
99789386	104960177
99788982	104955813
99788579	104951461
99788174	104947109
99787770	104942759
99787365	104938414
99786959	104934072
99786553	104929733
99786147	104925398
99785741	104901066
99785333	104916738
99784926	104912414
99784518	104908093
99784110	104903775
99783701	104899461
99783292	104895150
99782883	104890843
99782473	104886539
99782063	104882239

M.	Sin. 18	Tang. 18
0	94899823	9511776
1	94903709	9512205
2	94907592	9512635
3	94911470	9513064
4	94915345	9513492
5	94919216	9513921
6	94923083	9514349
7	94926946	9514776
8	94930805	9515203
9	94934661	9515630
10	94938513	9516057
11	94942361	9516481
12	94946205	9516909
13	94950046	9517333
14	94953882	9517776
15	94957715	9518185
16	94961544	9518610
17	94965370	9519036
18	94969192	9519458
19	94973010	9519888
20	94976824	9520305
21	94980635	9520722
22	94984442	9521152
23	94988245	9521573
24	94992044	9521995
25	94995840	9522416
26	94999632	9522837
27	95003421	9523258
28	95007205	9523679
29	95010987	9524099
30	95014764	9524512

Sin. 71	*Tang.* 71
99782063	104882239
99781652	104877942
99781241	104873649
99780830	104869359
99780418	104865073
99780005	104860789
99779593	104856510
99779180	104852233
99778766	104847960
99778352	104843691
99777938	104839424
99777523	104835162
99777108	104830902
99776692	104826646
99776276	104822394
99775860	104818144
99775443	104813898
99775026	104809656
99774608	104805416
99774190	104801180
99773772	104796947
99773353	104792718
99772934	104788492
99772514	104784269
99772094	104780050
99771674	104775833
99771253	104771620
99770832	104767411
99770410	104763204
99769988	104759001
99769565	104754801

M.	Sin. 18	Tang. 18
30	95014764	9524519
31	95018538	9524937
32	95022308	9525358
33	95026075	9525777
34	95029837	9526196
35	95033597	9526615
36	95037352	9527033
37	95041104	9527452
38	95044853	9527869
39	95048598	9528286
40	95052339	9528702
41	95056077	9529118
42	95059811	9529534
43	95063541	9529950
44	95067268	9530366
45	95070992	9530781
46	95074711	9531196
47	95078428	9531612
48	95082140	9532020
49	95085850	9532433
50	95089555	9532852
51	95093257	9533265
52	95096956	9533678
53	95100651	9534091
54	95104343	9534505
55	95108031	9534916
56	95111715	9535327
57	95115396	9535735
58	95119074	9536159
59	95122748	9536561
60	95126419	9536971

Sin. 78	_Tang._ 78
99769565	104754801
99769143	104750604
99768719	104746411
99768296	104742221
99767871	104738033
99767447	104733850
99767022	104729669
99766597	104725492
99766171	104721318
99765745	104717146
99765318	104712979
99764891	104708814
99764464	104704652
99764036	104700494
99763608	104696339
99763179	104692187
99762750	104688038
99762320	104683892
99761891	104679750
99761460	104675610
99761030	104671474
99760599	104667341
99760167	104663211
99759735	104659084
99759303	104654960
99758870	104650839
99758437	104646721
99758003	104642607
99757569	104638495
99757135	104634386
99756700	104630281

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M.	Sin. 19	Tang. 19
0	95126419	9536971
1	95130086	9537302
2	95133750	9537792
3	95137410	9538201
4	95141067	9538610
5	95144720	9539022
6	95148370	9539432
7	95152017	9539843
8	95155660	9540254
9	95159292	9540655
10	95162936	9541060
11	95166569	9541470
12	95170198	9541877
13	95173824	9542281
14	95177447	9542680
15	95181066	9543083
16	95184682	9543490
17	95188294	9543904
18	95191903	9544301
19	95195509	9544703
20	95199112	9545111
21	95202711	9545520
22	95206306	9545922
23	95209899	9546331
24	95213438	9546733
25	95217073	9547131
26	95220656	9547540
27	95224235	9547940
28	95227811	9548343
29	95231383	9548747
30	95234952	9549143

Sin. 70	Tang. 70
99756700	10463028 I
99756265	10462 6179
99755829	10462 2079
99755393	10461 7983
99754957	10461 3890
99754520	10460 9800
99754083	10460 5712
99753645	10460 1628
99753207	10459 7547
99752769	10459 3469
99752330	10458 9394
99751890	10458 5322
99751451	10458 1252
99751010	10457 7186
99750570	10457 3123
99750129	10456 9063
99749688	10456 5006
99749246	10456 0951
99708804	10455 6900
99748361	10455 2851
99747918	10454 8806
99747475	10454 4764
99747031	10454 0724
99746587	10453 6687
99746142	10453 2654
99745697	10452 8623
99745251	10452 4595
99744805	10452 0570
99744359	10451 6548
99743912	10451 2529
99743465	10450 8513

M.	Sin. 39	Tang. 39
30	95234952	95491487
31	95238518	95495500
32	95242080	95499511
33	95245640	95503518
34	95249196	95507523
35	95252748	95511525
36	95256298	95515526
37	95259844	95519520
38	95263387	95523514
39	95266927	95527504
40	95270463	95531492
41	95273996	95535477
42	95277526	95539459
43	95281053	95543438
44	95284576	95547414
45	95288096	95551388
46	95291613	95555359
47	95295127	95559327
48	95298638	95563292
49	95302145	95567255
50	95305649	95571216
51	95309150	95575172
52	95312648	95579121
53	95316143	95583070
54	95319634	95587012
55	95323123	95590971
56	95326608	95594911
57	95330090	95598883
58	95333568	95602794
59	95337044	95606720
60	95340516	95610659

Sin. 70	*Tang.* 70
99743465	104508513
99743018	104504499
99742570	104500489
99742121	104496481
99741672	104492476
99741223	104488474
99740774	104484475
99740324	104480479
99739873	104476486
99739422	104472495
99738971	104468507
99738519	104464522
99738067	104460540
99737614	104456561
99737163	104452585
99736708	104448611
99736254	104444641
99735800	104440673
99735346	104436707
99734890	104432745
99734435	104428785
99733979	104424828
99733523	104420874
99733066	104416923
99732609	104412974
99732152	104409029
99731694	104405086
99731235	104401145
99730777	104397208
99730317	104393273
99729858	104389341

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M.	Sin.20	Tang.20
0	95340516	9561006:8
1	95343286	9561450
2	95347452	95618514
3	95350915	9562243
4	95354375	9562635
5	95357832	95630278
6	95361286	9563419
7	95364736	9563810
8	95368184	9564201
9	95371628	9564592
10	95375069	9564983
11	95378508	9565373
12	95381943	9565763
13	95385375	9566153
14	95388804	9566542
15	95392230	9566931
16	95395653	9567320
17	95399072	9567709
18	95402489	9568097
19	95405903	9568485
20	95409313	9568873
21	95412721	9569261
22	95416125	9569648
23	95419527	9570035
24	95422925	9570422
25	95426321	9570808
26	95429713	9571195
27	95433102	9571581
28	95436489	9571966
29	95439872	9572353
30	95443253	9572737

Sin. 69	Tang 69
99729858	10438934I
99729398	10438541I
99728937	10438148;
99728476	1043775 ; I
99728015	1043736 ;0
99727554	1043697 ; I
99727091	10436580;
99726629	1043618 ;2
99726166	10435798 ;
99725703	1043540 ; 4
99725239	1043501 ; 9
99724775	1043462 ; 7
99724310	1043423 ;7
99723845	10438470
99723380	10434575
99722914	10430684
99722448	1043267 ; 5
99721981	1043220 ;8
99721514	10435190;4
99721046	1043315I4;
99720578	1043311265
99720110	1043307 ;89
99719644	10430351;
99719172	10429964;
99718702	10429577;
99718232	10429191I
99717762	1042880 ;8
99717291	1042841 ;8
99716820	10428033;0
99716348	10427647;
99715876	1042726 ;;

M.	Sin. 20	Tang. 20
30	95443253	95727376
31	95446630	95731226
32	95450004	95735079
33	95453376	95738915
34	95456744	95742763
35	95460110	95746602
36	95463472	95750459
37	95466832	95754272
38	95470188	95758157
39	95473542	95761935
40	95476892	95765757
41	95480240	95769535
42	95483585	95773345
43	95486926	95777725
44	95490265	95781037
45	95493601	95784417
46	95496934	95788864
47	95500264	95792247
48	95503591	95796622
49	95506916	95800007
50	95510237	95803387
51	95513555	95807669
52	95516871	95811145
53	95520184	95815152
54	95523493	95819197
55	95526800	95822215
56	95530104	95826593
57	95533405	95830045
58	95536703	95834347
59	95539999	95837975
60	95543291	95841175

Sin. 69	Tang. 69
99715876	104272623
99715403	104268773
99714930	104264925
99714457	104261081
99713983	104257239
99713509	104253399
99713034	104249562
99712559	104245727
99712084	104241895
99711608	104238066
99711133	104234239
99710655	104230414
99710178	104226592
99709700	104222773
99709222	104218956
99708744	104215142
99708265	104211330
99707786	104207521
99707306	104203714
99706826	104199910
99706345	104196108
99705064	104192308
99705383	104188512
99704702	104184717
99704419	104180925
99703936	104177136
99703453	104173349
99702970	104169564
99702486	104165782
99702002	104162002
99701517	104158225

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M.	Sin. 21	Tang. 21
0	95543291	95841774
1	95546581	95845549
2	95549868	95849321
3	95553151	95853091
4	95556433	95856858
5	95559711	95860623
6	95562986	95864386
7	95566259	95868145
8	95569528	95871902
9	95572795	95875659
10	95576059	95879412
11	95579320	95883163
12	95582579	95886911
13	95585835	95890657
14	95589087	95894402
15	95592337	95898142
16	95595585	95901882
17	95598829	95905617
18	95602071	95909351
19	95605309	95913083
20	95608546	95916811
21	95611779	95920538
22	95615009	95924259
23	95618237	95927930
24	95621462	95931700
25	95624684	95935412
26	95627904	95939137
27	95631120	95942857
28	95634334	95946561
29	95637545	95950263
30	95640754	95953977

M.	Sin. 68	Tang. 68
60	99701517	104158225
59	99701032	104154451
58	99700546	104150678
57	99700060	104146908
56	99699574	104143141
55	99699087	104139376
54	99698600	104135613
53	99698122	104131853
52	99697624	104128095
51	99697335	104124340
50	99696647	104120587
49	99696157	104116836
48	99695667	104113088
47	99695177	104109342
46	99694686	104105599
45	99694195	104101858
44	99693704	104098119
43	99693212	104094383
42	99692720	104090649
41	99692227	104086917
40	99691734	104083188
39	99691240	104079461
38	99690746	104075736
37	99690252	104072014
36	99689757	104068294
35	99689261	104064577
34	99688766	104060862
33	99688270	104057149
32	99687773	104053438
31	99687276	104049730
30	99686779	104046024

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M.	Sin. 21	Tang. 21
30	95640754	95953975
31	95643960	95957678
32	95647163	95961380
33	95650363	95965079
34	95653560	95968776
35	95656755	95972470
36	95659947	95976161
37	95663137	95979852
38	95666324	95983539
39	95669508	95987224
40	95672689	95990907
41	95675867	95994588
42	95679043	95998267
43	95682217	96001943
44	95685387	96005617
45	95688555	96009288
46	95691720	96012958
47	95694883	96016625
48	95698042	96020290
49	95701200	96023952
50	95704354	96027613
51	95707506	96031271
52	95710655	96034927
53	95713801	96038581
54	95716946	96042232
55	95720087	96045881
56	95723225	96049529
57	95726362	96053174
58	95729495	96056816
59	95732626	96060457
60	95735754	96064095

M.	Sin. 68	Tang. 68
30	99686779	104046024
29	99686281	104042321
28	99685783	104038619
27	99685284	104034920
26	99684785	104031224
25	99684285	104027529
24	99683785	104023837
23	99683285	104020147
22	99682784	104016460
21	99682283	104012775
20	99681783	104009092
19	99681279	104005411
18	99680776	104001733
17	99680274	103998057
16	99679770	103994383
15	99679266	103990711
14	99678762	103987041
13	99678257	103983374
12	99677752	103979709
11	99677247	103976047
10	99676741	103972386
9	99676235	103968728
8	99675728	103965072
7	99675221	103961418
6	99674713	103957767
5	99674205	103954118
4	99673697	103950471
3	99673188	103946826
2	99672678	103943183
1	99672168	103939542
0	99671658	103935904

M.	Sin. 22	Tang. 22
0	95735754	96064095
1	95738879	96067731
2	95742002	96071365
3	95745122	96074997
4	95748240	96078627
5	95751355	96082254
6	95754468	96085879
7	95757578	96089502
8	95760685	96093123
9	95763789	96096742
10	95766892	96100359
11	95769991	96103973
12	95773088	96107585
13	95776182	96111195
14	95779274	96114803
15	95782363	96118409
16	95785450	96122013
17	95788534	96125614
18	95791616	96129214
19	95794695	96132811
20	95797771	96136407
21	95800845	96140000
22	95803916	96143591
23	95806985	96147179
24	95810051	96150766
25	95813115	96154351
26	95816176	96157933
27	95819235	96161514
28	95822291	96165092
29	95825345	96168669
30	95828396	96172243

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60	99671658	103935904
59	99671147	103932268
58	99670636	103928634
57	99670125	103925002
56	99669613	103921372
55	99669102	103917745
54	99668588	103914120
53	99668075	103910497
52	99667561	103906876
51	99667047	103903257
50	99666533	103899641
49	99666018	103896026
48	99665502	103892414
47	99664987	103888804
46	99664470	103885196
45	99663954	103881590
44	99663437	103877986
43	99662919	103874385
42	99662401	103870785
41	99661883	103867188
40	99661364	103863593
39	99660845	103860000
38	99660325	103856409
37	99659805	103852820
36	99659285	103849233
35	99658764	103845648
34	99658243	103842066
33	99657721	103838485
32	99657199	103834907
31	99656676	103831331
30	99656153	103827756

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M.	Sin. 22	Tang. 22
30	95828396	96172243
31	95831445	96175815
32	95834491	96179385
33	95837535	96182955
34	95840576	96186529
35	95843614	96190083
36	95846650	96193644
37	95849684	96197204
38	95852715	96200762
39	95855744	96204318
40	95858770	96207871
41	95861794	96211425
42	95864815	96214972
43	95867834	96218529
44	95870851	96222065
45	95873864	96225609
46	95876876	96229150
47	95879885	96232690
48	95882891	96236227
49	95885895	96239762
50	95888897	96243296
51	95891896	96246827
52	95894893	96250356
53	95897887	96253883
54	95900879	96257409
55	95903869	96260932
56	95906856	96264453
57	95909840	96267973
58	95912823	96271490
59	95915802	96275006
60	95918780	96278519

	Sin 67	Tang. 67
0	99656153	103827756
9	99655629	103824184
8	99655106	103820614
7	99654581	103817046
6	99654057	103813480
5	99653531	103809917
4	99653006	103806355
3	99652480	103802795
2	99651953	103799237
1	99651426	103795681
0	99650899	103792128
9	99650371	103788576
8	99649843	103785027
7	99649314	103781479
6	99648785	103777934
5	99648255	103774390
4	99647725	103770849
3	99647195	103767310
2	99646664	103763772
1	99646133	103760237
0	99645601	103756704
9	99645069	103753172
8	99644536	103749643
7	99644003	103746116
6	99643470	103742590
5	99642936	103739067
4	99642402	103735546
3	99641867	103732026
2	99641332	103728509
1	99640796	103724994
0	99640260	103721480

M.	Sin. 23	Tang 23
0	95918780	96278519
1	95921755	9628203o
2	95924727	9628554o
3	95927697	9628904⁊
4	95930665	9629255⁊
5	95933631	9629605⁊
6	95936594	9629955⁊
7	95939554	9630305⁊
8	95942512	9630655⁊
9	95945468	9631005⁊
10	95948422	9631354⁊
11	95951373	9631703⁊
12	95954321	9632051⁊
13	95957268	9632491⁊
14	95960212	9632750⁊
15	95963153	9633098⁊
16	95966093	9633446⁊
17	95969030	9633794⁊
18	95971964	9634142⁊
19	95974896	9634490⁊
20	95977826	9634837⁊
21	95980754	9635185⁊
22	95983679	9635532⁊
23	95986602	9635879⁊
24	95989522	9636225⁊
25	95992440	9636572⁊
26	95995356	9636918⁊
27	95998270	9637264⁊
28	96001181	9637610⁊
29	96004090	9637956⁊
30	96006997	9638301⁊

Sin. 66	Tang. 66
99640260	10372148c
99639724	10371796c
99639187	10371445c
99638650	10371095 2
99638112	10370744 6
99637574	10370394 3
99637035	10370044 1
99636496	10369694 2
99635957	10369344 4
99635417	10368994 8
99634876	10368645 4
99634335	10368296 2
99633794	10367947 2
99633253	10367598 4
99632710	10367249 8
99632168	10366901 4
99631625	10366553 2
99631081	10366205 1
99630538	10365857 3
99629993	10365509 7
99629449	10365162 2
99628904	10364814 9
99628358	10364467 9
99627812	10364121 0
99627265	10363774 3
99626718	10363427 8
99626171	10363081 5
99625623	10362735 3
99625075	10362389 4
99624527	10362043 6
99623977	10361698 1

M.	Sin. 23	Tang. 23
30	96006997	9638301?
31	96009901	9638647?
32	96012803	9638992?
33	96015702	9639337?
34	96018600	9639682?
35	96021495	9640026?
36	96024387	9640371?
37	96027278	9640715?
38	96030166	9641059?
39	96033052	9641403?
40	96035936	9641747?
41	96038817	9642090?
42	96041696	9642434?
43	96044573	9642777?
44	96047447	9643120?
45	96050319	9643463?
46	96053189	9643805?
47	96056057	9644148?
48	96058922	9644490?
49	96061786	9644832?
50	96064646	9645174?
51	96067505	9645515?
52	96070362	9645857?
53	96073216	9646198?
54	96076068	9646539?
55	96078918	9646880?
56	96081765	9647221?
57	96084610	9647562?
58	96087453	9647902?
59	96090294	9648243?
60	96093133	9648583?

99623977	103616985
99623428	103613527
99622878	103610075
99622328	103606625
99621777	103603177
99621225	103599730
99620674	103596286
99620122	103592843
99619569	103589402
99619016	103585964
99618463	103582527
99617909	103579091
99617354	103575658
99616799	103572226
99616244	103568797
99615689	103565369
99615133	103561943
99614576	103558519
99614019	103555096
99613462	103551676
99612904	103548257
99612346	103544840
99611787	103541425
99611228	103538011
99610668	103534600
99610108	103531190
99609548	103527782
99608987	103524376
99608425	103520972
99607863	103517569
99607301	103514168

M.	Sin. 24	Tang. 24
0	96093133	9648583
1	96095969	96489236
2	96098803	96492621
3	96101635	96496021
4	96104465	96499416
5	96107292	96502806
6	96110117	96506196
7	96112940	96509586
8	96115761	96512976
9	96118580	96516366
10	96121396	96519756
11	96124211	96523146
12	96127023	96526595
13	96129833	96529836
14	96132641	96533325
15	96135446	96536636
16	96138249	96540005
17	96141051	96543375
18	96143850	96546746
19	96146646	96550116
20	96149441	96553547
21	96152234	96556684
22	96155024	96560025
23	96157812	96563356
24	96160598	96566695
25	96163382	96570256
26	96166164	96571616
27	96168943	96576986
28	96171721	96580146
29	96174496	96583666
30	96177269	96587046

Sin. 65	Tang. 65
99607301	103514168
99606738	103510769
99606175	103507372
99605612	103503976
99605048	103500583
99604483	103497191
99603919	103493801
99603353	103490412
99602787	103487026
99602221	103483641
99601655	103480258
99601087	103476876
99600520	103473497
99599952	103470119
99599383	103466742
99598815	103463368
99598245	103459995
99597676	103456624
99597105	103453255
99596535	103449888
99595964	103446522
99595392	103443158
99594820	103439796
99594248	103436435
99593675	103433077
99593102	103429719
99592528	103426364
99591954	103423010
99591379	103419658
99590804	103416307
99590229	103412959

M	Sin. 24	Tang. 24
30	96177269	96587040
31	96180040	96590387
32	96182309	96593733
33	96185576	96597076
34	96188340	96600418
35	96191103	96603758
36	96193863	96607097
37	96196622	96610434
38	96199378	96613769
39	96202132	96617102
40	96204884	96620434
41	96207633	96623764
42	96210381	96627093
43	96213127	96630420
44	96215870	96633745
45	96218612	96637068
46	96221351	96640390
47	96224088	96643711
48	96226823	96647029
49	96229556	96650346
50	96232287	96653661
51	96235016	96656975
52	96237743	96660287
53	96240467	96663598
54	96243190	96666906
55	96245911	96670214
56	96248629	96673519
57	96251345	96676823
58	96254060	96680125
59	96256772	96683426
60	96259482	96686725

Sin. 65	Tang. 65
99590229	103412959
99589653	103409612
99589076	103406267
99588500	103402923
99587922	103399581
99587344	103396241
99586756	103392903
99586188	103389566
99585609	103386230
99585029	103382897
99584449	103379565
99583869	103376235
99583288	103372906
99582707	103369579
99582125	103366254
99581543	103362931
99580960	103359609
99580377	103356289
99579794	103352970
99579210	103349653
99578625	103346338
99578040	103343024
99577455	103339712
99576869	103336401
99576283	103333093
99575697	103329786
99575109	103326480
99574522	103323176
99573934	103319874
99573346	103316573
99572757	103313274

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M.	Sin. 25	Tang. 25
0	96259492	9668672?
1	96262x90	9669002?
2	96264897	9669331?
3	96267601	9669661?
4	96270303	9669990?
5	96273002	9670319?
6	96275700	9670648?
7	96278386	9670977?
8	96281090	9671306?
9	96283782	9671634?
10	96286471	9671962?
11	96289159	9672229?
12	9629x845	9672618?
13	96294529	9672946?
14	96297210	9673274?
15	96299890	9673601?
16	96302567	9673922?
17	96305243	9674256?
18	96307917	9674583?
19	96310588	9674910?
20	96313258	9675237?
21	96315925	9675563?
22	96318591	9675890?
23	96321254	9676216?
24	96323916	9676543?
25	96326575	9676868?
26	96329233	9677193?
27	96331888	9677520?
28	96334542	9677845?
29	96337x94	9678170?
30	96339843	9678495?

Sin. 64	Tang. 65
99572757	103313274
99572167	103309976
99571578	103306681
99570987	103303386
99570397	103300094
99569806	103296803
99569214	103293513
99568622	103290225
99568030	103286939
99567437	103283655
99566843	103280371
99566250	103277090
99565655	103273810
99565061	103270532
99564465	103267255
99563870	103263980
99563274	103260706
99562677	103257434
99562080	103254163
99561483	103250894
99560885	103247627
99560287	103244361
99559688	103241097
99559089	103237834
99558489	103234573
99557889	103231313
99557289	103228055
99556688	103224799
99556086	103221544
99555484	103218290
99554882	103215038

M.	Sin. 25	Tang. 25
30	96339843	96784961
31	96342491	96788211
32	96345136	96791460
33	96347780	96794700
34	96350422	96797951
35	96353061	96801119
36	96355699	96804449
37	96358335	96807686
38	96360969	96810921
39	96363600	96814155
40	96366230	96817388
41	96368858	96820619
42	96371484	96823849
43	96374108	96827078
44	96376730	96830312
45	96379350	96833535
46	96381968	96836759
47	96384585	96840001
48	96387199	96843226
49	96389811	96846449
50	96392422	96849691
51	96395030	96852722
52	96397636	96856122
53	96400241	96859333
54	96402844	96862555
55	96405444	96865576
56	96408043	96868992
57	96410640	96872117
58	96413235	96875409
59	96415828	96878613
60	96418419	96881817

Sin. 64	Tang. 64
99554882	103215038
99554279	103211788
99553676	103208539
99553072	103205292
99552468	103202046
99551864	103198802
99551259	103195559
99550653	103192318
99550047	103189078
99549441	103185840
99548834	103182603
99548226	103179368
99547619	103176134
99547011	103172902
99546402	103169671
99545793	103166442
99545183	103163214
99544573	103159988
99543963	103156763
99543352	103153540
99542740	103150318
99542128	103147098
99541516	103143879
99540903	103140662
99540290	103137446
99539677	103134232
99539062	103131019
99538448	103127807
99537833	103124597
99537217	103121389
99536601	103118182

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M.	Sin. 26	Tang. 26
0	96418419	96883817
1	96421008	96885023
2	96423596	96888227
3	96426181	96891430
4	96428765	96894631
5	96431346	96897831
6	96433926	96901029
7	96436504	96904226
8	96439080	96907421
9	96441654	96910616
10	96444226	96913808
11	96446726	96916999
12	96449364	96920189
13	96451931	96923377
14	96454495	96926564
15	96457058	96929750
16	96459619	96932934
17	96462178	96936116
18	96464735	96939298
19	96467290	96942478
20	96469843	96945656
21	96472395	96948833
22	96474944	96952008
23	96477492	96955182
24	96480038	96958355
25	96482582	96961526
26	96485124	96964696
27	96487664	96967865
28	96490203	96971032
29	96492739	96974198
30	96465274	96977362

Sin 93	Tang 93
99536301	103118182
99535985	103114976
99535368	103111772
99534757	103108569
99534133	103105368
99533545	103102168
99532825	103098970
99532277	103095773
99531658	103092578
99531038	103089384
99530417	103086193
99529796	103083000
99529475	103079810
99528553	103076622
99527931	103073435
99527308	103070249
99526685	103067065
99526061	103063883
99525437	103060702
99524812	103057522
99524287	103054343
99523562	103051167
99522939	103047991
99522309	103044817
99521682	103041644
99521055	103038473
99520427	103035303
99519799	103032134
99519170	103028967
99518541	103025801
99517911	103022637

M.	Sin. 26	Tang. 26
30	96495274	96977362
31	96497807	96980525
32	96500338	96983687
33	96502867	96986847
34	96505394	96990006
35	96507920	96993163
36	96510444	96996319
37	96512965	96999474
38	96515485	97002627
39	96518004	97005779
40	96520520	97008930
41	96523035	97012079
42	96525547	97015227
43	96528058	97018373
44	96530567	97021518
45	96533075	97024663
46	96535580	97027805
47	96538084	97030946
48	96540586	97034086
49	96543086	97037224
50	96545584	97040361
51	96548080	97043497
52	96550575	97046631
53	96553068	97049764
54	96555559	97052896
55	96558048	97056026
56	96560535	97059155
57	96563021	97062283
58	96565505	97065410
59	96567987	97068535
60	96570467	97071658

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0	99517911	103022537
9	99517281	103019474
8	99516651	103016312
7	99516020	103013152
6	99515388	103009993
5	99514756	103006836
4	99514124	103003680
3	99513491	103000525
2	99512858	102997372
1	99512221	102994220
0	99511590	102991069
9	99510955	102987920
8	99510320	102984773
7	99509684	102981626
6	99509048	102978481
5	99508412	102975337
4	99507775	102972194
3	99507137	102969053
2	99506499	102965913
1	99505861	102962775
0	99505222	102959638
	99504583	102956502
	99503943	102953368
	99503303	102950235
	99502662	102947103
	99502021	102943973
	99501380	102940844
	99500737	102937716
	99500095	102934520
	99499452	102931464
	99498808	102928341

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M.	Sin. 27	Tang.
0	96570467	9707160
1	96572946	9707470
2	96575422	9707790
3	96577897	9708100
4	96580371	9708410
5	96582842	9708720
6	96585312	9709030
7	96587779	9709330
8	96590246	9709650
9	96592710	9709900
10	96595172	9710220
11	96597633	9710530
12	96600092	9710920
13	96602549	9711210
14	96605005	9711530
15	96607459	9711800
16	96609911	9712120
17	96612361	9712490
18	96614809	9713200
19	96617256	9713300
20	96619701	9713300
21	96622144	9713600
22	96624586	9714400
23	96627026	9714400
24	96629464	9714400
25	96631900	9714700
26	96634335	9715300
27	96636767	9715300
28	96639199	9714100
29	96641528	9714100
30	96644056	9714400

Sin. 62	Tang. 62
99498808	102928341
99498165	102925218
99497520	102922097
99496875	102918977
99496230	102915859
99495584	102912742
99494938	102909626
99494291	102906511
99493644	102903398
99492996	102900286
99492348	102897176
99491700	102894066
99491051	102890958
99490401	102887851
99489751	102884746
99489101	102881642
99488450	102878539
99487729	102875438
99487147	102872337
99486495	102869238
99485842	102866140
99485189	102863044
99484535	102859949
99483881	102856855
99483224	102853762
99482571	102850671
99481915	102847581
99481260	102844492
99480603	102841404
99479946	102838318
99479289	102835233

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M.	Sin. 27	Tang 27
30	96644056	9716476
31	96646482	9716833
32	96648905	9717094
33	96651328	9717341
34	96653749	9717703
35	96656168	9718011
36	96658585	9718322
37	96661007	9718631
38	96663415	9718742
39	96665822	9719243
40	96668228	9719553
41	96670547	9719863
42	96673054	9720163
43	96675459	9720473
44	96677863	9720783
45	96680265	9721069
46	96682665	9721397
47	96685064	9721703
48	96687461	9722003
49	96689856	9722314
50	96692249	9722622
51	96694641	9722928
52	96697031	9723242
53	96699420	9723538
54	96701807	9723849
55	96704192	9724145
56	96706575	9724465
57	96708957	9724755
58	96711337	9725064
59	96713716	9725369
60	96716093	9725679

Sin 62	Tang. 62
99479289	102835233
99478651	102832149
99477993	102829056
99477314	102825985
99476655	102822905
99475995	102819826
99475335	102816749
99474674	102813672
99474013	102810597
99473351	102807523
99472689	102804451
99472027	102801380
99471364	102798309
99470700	102795240
99470036	102792173
99469372	102789106
99468707	102786041
99468041	102782977
99467376	102779914
99466709	102776853
99466043	102773793
99465375	102770734
99464708	102767676
99464039	102764619
99463371	102761563
99462702	102758509
99462032	102755456
99461362	102752404
99460691	102749354
99460020	102746304
99459349	102743256

N iij

M.	Sin. 28	Tang 28
0	96716093	97256
1	96718458	9725977
2	96720841	9726264
3	96723213	9726564
4	96725583	9726892
5	96727952	9727196
6	96730318	9727500
7	96732683	9727804
8	96735047	9728108
9	96737409	9728411
10	96739769	9728716
11	96742128	9729021
12	96744484	9729324
13	96746840	9729628
14	96749193	9729932
15	96751545	9730235
16	96753895	9730539
17	96756244	9730842
18	96758591	9731145
19	96760937	9731449
20	96763280	9731740
21	96765622	9732048
22	96767963	9732355
23	96770302	9732657
24	96772639	9732954
25	96774975	9733256
26	96777309	9733559
27	96779641	9733860
28	96781972	9734161
29	96784301	9734465
30	96786629	9734764

Sin. 61	Tang. 61
99459342	102743256
99458677	102740209
99458005	102737163
99457332	102734118
99456658	102731075
99455984	102728032
99455310	102724991
99454635	102721951
99453960	102718913
99453284	102715875
99452608	102712839
99451932	102709804
99451254	102706770
99450577	102703737
99449899	102700705
99449220	102697674
99448541	102694645
99447862	102691617
99447182	102688590
99446501	102685564
99445820	102682539
99445139	102679516
99444457	102676493
99443774	102673472
99443092	102670452
99442408	102667433
99441724	102664415
99441040	102661399
99440356	102658383
99439670	102655369
99438985	102652356

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M.	Sin. 28	Tang. 28
30	96786629	973476
31	96788955	97350656
32	96791279	97353656
33	96793602	97356676
34	96795923	97359685
35	96798242	973626
36	96800560	97365699
37	96802876	97368702
38	96805191	97371709
39	96807504	97374712
40	96809816	97377714
41	96812125	97380714
42	96814434	97383714
43	96816740	97386711
44	96819045	97389711
45	96821349	97392709
46	96823651	97395702
47	96825951	97398620
48	96828250	97401687
49	96830547	97404687
50	96832843	97407672
51	96835137	97410667
52	96837429	97413650
53	96839720	97416637
54	96842009	97419622
55	96844297	97422609
56	96846583	97425594
57	96848868	97428570
58	96851151	97431559
59	96853432	97434540
60	96855712	97437520

M.	Sin. 61	Tang 61
0	9938985	10265235·6
29	9937298	10264934·3
28	9937612	10264635·3
27	9936925	10264332·3
26	9936237	10264031·4
25	9935549	10263730·6
24	9934861	10263435·00
23	9934172	10263129·5
22	9933482	10262829·1
21	9932792	10262525·88
20	9932102	10262222·86
19	9931411	10261925·85
18	9930719	10261625·85
17	9930027	10261332·87
16	9929335	10261035·89
15	9928642	10260732·93
14	9927949	10260435·98
13	9927255	10260130·4
12	9926561	10259831·0
11	9925866	10259535·18
10	9925171	10259232·8
9	9924475	10258933·8
8	9923779	10258634·9
7	9923082	10258332·2
6	9922385	10258030·75
5	9921688	10257733·90
4	9920989	10257435·06
3	9920291	10257135·23
2	9919592	10256,8441
1	9918892	10256535·60
0	9918192	10256232·80

M.	Sin 29	Tang 29
0	96855712	9743751?
1	96857990	9744049?
2	96860267	9744347?
3	96862542	9744646?
4	96864816	9744942?
5	96867088	9745242?
6	96869358	9745537?
7	96871627	9745836?
8	96873895	9746131?
9	96876160	9746434?
10	96878425	9746723?
11	96880687	9747022?
12	96882949	9747319?
13	96885208	9747616?
14	96887466	9747912?
15	96889723	9748209?
16	96891978	9748505?
17	96894232	9748801?
18	96896484	9749097?
19	96898734	9749393?
20	96900983	9749688?
21	96903230	9749984?
22	96905476	9750280?
23	96907720	9750576?
24	96909963	9750871?
25	96912204	9751166?
26	96914444	9751462?
27	96916682	9751757?
28	96918919	9752052?
29	96921154	9752347?
30	96923388	9752642?

M.	Sin. 60	Tang. 60
60	99418192	102562490
59	99417492	102559501
58	99416791	102556523
57	99416089	102553547
56	99415387	102550573
55	99414685	102547597
54	99413982	102544623
53	99413279	102541651
52	99412575	102538680
51	99411870	102535709
50	99411165	102532740
49	99410460	102529772
48	99409754	102526805
47	99409048	102523839
46	99408341	102520874
45	99407634	102517911
44	99406926	102514948
43	99406218	102511986
42	99405509	102509025
41	99404800	102506066
40	99404091	102503107
39	99403380	102500150
38	99402670	102497193
37	99401959	102494238
36	99401247	102491284
35	99400535	102488330
34	99399822	102485378
33	99399109	102482427
32	99398396	102479476
31	99397682	102476527
30	99396967	102473579

M.	Sin. 29	Tang. 29
30	96923388	97526420
31	96925620	97529367
32	96927851	97532313
33	96930080	97535258
34	96932307	97538203
35	96934533	97541146
36	96936758	97544087
37	96938981	97547028
38	96941203	97549968
39	96943423	97552907
40	96945641	97555845
41	96947858	97558782
42	96950074	97561718
43	96952288	97564653
44	96954501	97567587
45	96956712	97570520
46	96958921	97573452
47	96961129	97576383
48	96963336	97579312
49	96965541	97582241
50	96967745	97585169
51	96969947	97588095
52	96972148	97591022
53	96974347	97593947
54	96976544	97596871
55	96978741	97599794
56	96980935	97602715
57	96983129	97605636
58	96985320	97608556
59	96987511	97611475
60	96989700	97614393

M.	Sin. 60	Tang. 60
30	99396967	102473579
29	99396252	102470632
28	99395537	102467686
27	99394821	102464745
26	99394104	102461797
25	99393388	102458854
24	99392670	102455912
23	99391952	102452973
22	99391234	102450031
21	99390515	102447092
20	99389796	102444154
19	99389076	102441217
18	99388355	102438281
17	99387635	102435346
16	99386913	102432412
15	99386191	102429479
14	99385469	102426548
13	99384745	102423617
12	99384023	102420687
11	99383299	102417758
10	99382575	102414830
9	99381850	102411903
8	99381125	102408977
7	99380400	102406052
6	99379673	102403128
5	99378947	102400206
4	99378220	102397284
3	99377492	102394363
2	99376764	102391443
1	99376035	102588524
0	99375306	102385606

M.	Sin. 30	Tang. 30
0	96989700	97614323
1	96991887	97617310
2	96994073	97620226
3	96996257	97623141
4	96998440	97626056
5	97000622	97628969
6	97002802	97631881
7	97004981	97634792
8	97007158	97637702
9	97009333	97640611
10	97011508	97643520
11	97013680	97646427
12	97015852	97649333
13	97018021	97652238
14	97020190	97655143
15	97022357	97658046
16	97024522	97660949
17	97026686	97663850
18	97028849	97666751
19	97031010	97669651
20	97033170	97672549
21	97035328	97675447
22	97037485	97678344
23	97039641	97681240
24	97041795	97684135
25	97043947	97687029
26	97046098	97689922
27	97048248	97692814
28	97050396	97695705
29	97052543	97698596
30	97054688	97701485

M.	Sin. 59	Tang. 59
60	99375306	102385606
59	99374576	102382689
58	99373846	102379773
57	99373116	102376858
56	99372385	102373944
55	99371653	102371031
54	99370921	102368118
53	99370188	102365207
52	99369455	102362297
51	99368722	102359388
50	99367988	102356480
49	99367253	102353572
48	99366518	102350666
47	99365783	102347761
46	99365047	102344856
45	99364310	102341953
44	99363573	102339050
43	99362836	102336149
42	99362098	102333248
41	99361359	102330349
40	99360620	102327450
39	99359881	102324552
38	99359141	102321655
37	99358400	102318759
36	99357659	102315864
35	99356918	102312971
34	99356176	102310078
33	99355434	102307185
32	99354691	102304294
31	99353947	102301404
30	99353203	102298515

M.	Sin. 30	Tang. 30
30	97054688	97701468
31	97056832	97704377
32	97058975	97707262
33	97061116	97710147
34	97063256	97713032
35	97065394	97715917
36	97067531	97718802
37	97069666	97721653
38	97071800	97724569
39	97073933	97727449
40	97076064	97730329
41	97078194	97733209
42	97080322	97736089
43	97082449	97738969
44	97084575	97741849
45	97086699	97744719
46	97088822	97747588
47	97090943	97750461
48	97093063	97753339
49	97095181	97756208
50	97097298	97759077
51	97099414	97761947
52	97101528	97764814
53	97103641	97767615
54	97105753	97770557
55	97107863	97773418
56	97109972	97776238
57	97112079	97779144
58	97114185	97782015
59	97116290	97784877
60	97118393	97787737

Sin. 59	Tang. 59
99353203	102298515
99352459	102295626
99351714	102292739
99350969	102289852
99350223	102286967
99349477	102284082
99348730	102281198
99347982	102278316
99347234	102275434
99346486	102272553
99345737	102269673
99344988	102266794
99344238	102263915
99343488	102261038
99342737	102258162
99341986	102255286
99341233	102252411
99340481	102249538
99339728	102246665
99338975	102243793
99338221	102240922
99337467	102238052
99336712	102235183
99335957	102232315
99335201	102229448
99334445	102226581
99333688	102223715
99332931	102220851
99332173	102217987
99331414	102215124
99330656	102212262

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M.	Sin. 31	Tang.
0	9711839 3	97787
1	9712049 5	977905
2	9712259 5	977934
3	9712469 4	977963
4	9712679 2	977977
5	9712888 8	978012
6	9713098 3	978041
7	9713307 7	978070
8	9713516 9	978103
9	9713726 0	978132
10	9713934 9	978161
11	9714143 7	978191
12	9714352 4	978221
13	9714560 9	978251
14	9714769 3	978281
15	9714977 5	978310
16	9715185 7	978340
17	9715393 6	978370
18	9715601 5	978395
19	9715809 2	978419
20	9716016 8	978447
21	9716224 2	978470
22	9716431 5	978500
23	9716663 7	978506
24	9716843 7	978560
25	9717052 6	978590
26	9717259 4	978610
27	9717460 0	978640
28	9717672 5	978670
29	9717878 8	978700
30	9718080 1	978730

Sin. 58	Tang.
99330656	102212262
99329896	102209401
99329136	102206541
99328376	102203681
99327615	102200823
99326854	102197965
99326092	102195109
99325330	102192253
99324567	102189398
99323804	102186544
99323040	102183690
99322275	102180838
99321511	102177989
99320745	102175136
99319979	102172286
99319213	102169437
99318446	102166589
99317679	102163842
99316911	102160896
99316143	102158050
99315374	102155205
99314604	102152362
99313835	102149519
99313064	102146677
99312293	102143836
99311522	102140995
99310750	102138156
99309978	102135317
99309205	102132479
99308431	102129642
99307657	102126806

M.	Sin. 31	Tang. 31
30	97180851	97873193
31	97182912	97876028
32	97184971	97878863
33	97187029	97881696
34	97189086	97884529
35	97191142	97887361
36	97193196	97890191
37	97195249	97893022
38	97197300	97895852
39	97199350	97898683
40	97201399	97901508
41	97203446	97904335
42	97205493	97907161
43	97207537	97909986
44	97209581	97912811
45	97211623	97915634
46	97213664	97918457
47	97215703	97921279
48	97217741	97924101
49	97219778	97926921
50	97221814	97929741
51	97223848	97932559
52	97225881	97935377
53	97227913	97938194
54	97229943	97941011
55	97231972	97943826
56	97233999	97946640
57	97236026	97949454
58	97238051	97952266
59	97240074	97955078
60	97242097	97957889

M.	Sin. 58	Tang. 58
30	99307657	102126806
29	99306883	102123971
28	99306108	102121137
27	99305333	102118303
26	99304557	102115470
25	99303780	102112638
24	99303003	102109807
23	99302226	102106977
22	99301448	102104147
21	99300670	102101319
20	99299891	102098491
19	99299111	102095664
18	99298331	102092838
17	99297551	102090013
16	99296770	102087188
15	99295988	102084365
14	99295206	102081542
13	99294424	102078720
12	99293641	1 075899
11	99292857	102073078
10	99292073	102070259
9	99291288	102067440
8	99290503	102064622
7	99289718	102061805
6	99288932	102058988
5	99288145	102056173
4	99287358	102053358
3	99286570	102050544
2	99285782	102047731
1	99284994	102044919
0	99284204	102042107

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M.	Sin 32	Tang. 32
0	97242097	97957892
1	97244118	97960703
2	97246138	97963513
3	97248156	97966322
4	97250173	97969130
5	97252189	97971938
6	97254203	97974744
7	97256217	97977550
8	97258229	97980356
9	97260239	97983160
10	97262249	97985964
11	97264257	97988766
12	97266263	97991568
13	97268269	97994370
14	97270273	97997170
15	97272276	97999970
16	97274278	98002769
17	97276278	98005567
18	97278277	98008364
19	97280275	98011161
20	97282271	98013957
21	97284266	98016752
22	97286260	98019546
23	97388253	98022340
24	97290244	98025132
25	97292234	98027924
26	97294223	98030716
27	97296210	98033506
28	97298196	98036296
29	97300181	98039085
30	97302165	98041873

M.	Sin. 57	Tng 57
60	99284204	102042107
59	99283415	102039297
58	99282625	102036487
57	99281834	102033678
56	99281043	102030869
55	99280251	102028062
54	99279459	102025255
53	99278666	102022449
52	99277873	102019644
51	99277079	102016839
50	99276285	102014036
49	99275490	102011233
48	99274695	102008431
47	99273899	102005629
46	99273103	102002829
45	99272306	102000029
44	99271508	101997230
43	99270711	101994432
42	99269912	101991635
41	99269113	101988838
40	99268314	101986042
39	99267514	101983247
38	99266713	101980453
37	99265913	101977659
36	99265111	101974867
35	99264309	101972075
34	99263507	101969283
33	99262704	101966493
32	99261900	101963703
31	99261096	101960914
30	99260292	101958126

M.	Sin. 32	Tang. 32
30	97302165	98041873
31	97304147	98044660
32	97306128	98047447
33	97308108	98050233
34	97310087	98053018
35	97312064	98055803
36	97314040	98058586
37	97316015	98061369
38	97317988	98064151
39	97319960	98066933
40	97321931	98069714
41	97323901	98072494
42	97325870	98075273
43	97327837	98078051
44	97329803	98080829
45	97331767	98083606
46	97333731	98086382
47	97335693	98089158
48	97337654	98091932
49	97339613	98094707
50	97341572	98097480
51	97343529	98100252
52	97345485	98103024
53	97347440	98105796
54	97349393	98108566
55	97351345	98111336
56	97353296	98114105
57	97355246	98116873
58	97357194	98119640
59	97359141	98122407
60	97361087	98125173

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M.	Sin. 57	Tang. 57
0	99260292	101958126
9	99259486	101955339
8	99258681	101952552
7	99257875	101949766
6	99257068	101946981
5	99256261	101944196
4	99255453	101941413
3	99254645	101938630
2	99253836	101935848
1	99253027	101933066
0	99252218	101930285
9	99251407	101927506
8	99250596	101924726
7	99249785	101921948
6	99248973	101919170
5	99248161	101916393
4	99247348	101913617
3	99246535	101910842
2	99245721	101908067
1	99244906	101905293
0	99244092	101902519
9	99243276	101899747
8	99242460	101896975
7	99241644	101894204
6	99240827	101891433
5	99240009	101888663
4	99239191	101885894
3	99238372	101883126
2	99237553	101880359
1	99236734	101877592
0	99235914	101874826

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M.	Sin. 33	Tang. 33
0	97361087	98125173
1	97363032	98127939
2	97364975	98130703
3	97366918	98133467
4	97368859	98136231
5	97370798	98138993
6	97372737	98141755
7	97374674	98144516
8	97376610	98147276
9	97378545	98150036
10	97380479	98152795
11	97382411	98155553
12	97384342	98158311
13	97386272	98161068
14	97388201	98163824
15	97390128	98166579
16	97392055	98169334
17	97393980	98172088
18	97395904	98174842
19	97397826	98177594
20	97399748	98180346
21	97401668	98183098
22	97403587	98185848
23	97405504	98188598
24	97407421	98191347
25	97409336	98194096
26	97411250	98196844
27	97413163	98199591
28	97415075	98202338
29	97416985	98205084
30	97418895	98207829

	Sin. 56	Tang. 56
0	99235914	101874826
9	99235093	101872061
8	99234272	101869296
7	99233450	101866532
6	99232628	101863769
5	99231805	101861006
4	99230982	101858244
3	99230158	101855483
2	99229334	101852723
1	99228509	101849963
0	99227683	101847204
9	99226858	101844446
8	99226031	101841688
7	99225204	101838931
6	99224377	101836175
5	99223549	101833420
	99222720	101830665
	99221891	101827911
	99221062	101825158
	99220231	101822405
0	99219401	101819653
9	99218570	101816902
	99217738	101814151
	99216906	101811401
	99216073	101808652
	99215240	101805903
	99214406	101803155
	99213572	101800408
	99212737	101797662
	99211901	101794916
0	99211066	101792171

M	Sin. 33	Tang. 33
30	97418895	98207829
31	97420803	98210573
32	97422710	98213317
33	97424615	98216060
34	97426520	98218803
35	97428423	98221544
36	97430325	98224286
37	97432225	98227026
38	97434125	98229766
39	97436024	98232505
40	97437921	98235243
41	97439817	98237981
42	97441712	98240718
43	97443606	98243455
44	97445498	98246190
45	97447389	98248925
46	97449279	98251660
47	97451168	98254394
48	97453056	98257127
49	97454942	98259859
50	97456828	98262591
51	97458712	98265322
52	97460595	98268053
53	97462477	98270783
54	97464357	98273512
55	97466237	98276241
56	97468115	98278969
57	97469992	98281696
58	97471868	98284423
59	97473743	98287149
60	97475616	98289874

M.	Sin. 56	Tang. 56
0	99211066	101792171
9	99210229	101789426
8	99209392	101786682
7	99208555	101783939
6	99207717	101781197
5	99206878	101778455
4	99206039	101775714
3	99205199	101772973
2	99204359	101770233
1	99203519	101767494
0	99202677	101764756
9	99201836	101762018
8	99200993	101759281
7	99200151	101756545
6	99199307	101753809
5	99198463	101751074
4	99197619	101748339
3	99196774	101745605
2	99195929	101742872
1	99195083	101740140
0	99194236	101737408
9	99193389	101734677
8	99192542	101731946
7	99191693	101729216
6	99190845	101726487
5	99189996	101723758
4	99189146	101721030
3	99188296	101718303
2	99187445	101715576
1	99186594	101712850
0	99185742	101710125

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M.	Sin. 34	Tang 34
0	97475616	98289874
1	97477489	98292599
2	97479360	98295323
3	97481230	98298046
4	97483099	98300769
5	97484966	98303491
6	97486833	98306213
7	97488698	98308934
8	97490562	98311654
9	97492425	98314374
10	97494287	98317093
11	97496348	98319811
12	97498007	98322529
13	97499865	98325246
14	97501723	98327963
15	97503579	98330679
16	97505433	98333394
17	97507287	98336108
18	97509140	98338822
19	97510991	98341536
20	97512841	98344249
21	97514690	98346961
22	97516538	98349672
23	97518385	98352383
24	97520230	98355094
25	97522075	98357803
26	97523918	98360513
27	97525760	98363221
28	97527601	98365929
29	97529441	98368636
30	97531280	98371343

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0	99185742	101710125
9	99184889	101707400
8	99184036	101704676
7	99183183	101701953
6	99182329	101699230
5	99181474	101696508
4	99180619	101693786
3	99179764	101691065
2	99178908	101688345
1	99178051	101685626
0	99177194	101682906
9	99176336	101680188
8	99175478	101677470
7	99174619	101674753
6	99173760	101672037
5	99172900	101669321
4	99172039	101666605
3	99171178	101663891
2	99170317	101661177
1	99169455	101658463
0	99168592	101655751
9	99167729	101653039
8	99166865	101650327
7	99166001	101647616
6	99165137	101644906
5	99164271	101642196
4	99163405	101639487
3	99162539	101636778
2	99161672	101634070
1	99160805	101631363
30	97159937	101628656

M.	Sin 34	Tang.34
30	97531280	98371343
31	97533117	98374049
32	97534954	98376754
33	97536789	98379459
34	97538623	98382163
35	97540456	98384867
36	97542288	98387570
37	97544119	98390273
38	97545948	98392975
39	97547777	98395676
40	97549604	98398377
41	97551430	98401077
42	97553255	98403776
43	97555079	98406475
44	97556902	98409173
45	97558723	98411871
46	97560544	98414568
47	97562363	98417265
48	97564182	98419961
49	97565999	98422656
50	97567815	98425351
51	97569630	98428045
52	97571443	98430739
53	97573256	98433432
54	97575067	98436125
55	97576878	98438817
56	97578687	98441508
57	97580495	98444199
58	97582302	98446889
59	97584108	98449579
60	97585913	98452267

M.	Sin. 55	Tang 55
0	99159937	101628656
9	99159068	101625950
8	99158199	101623245
7	99157330	101620540
6	99156460	101617836
5	99155589	101615132
4	99154718	101612429
3	99153846	101609726
2	99152973	101607025
1	99152101	101604323
0	99151227	101601623
9	99150353	101598922
8	99149479	101596223
7	99148604	101593524
6	99147728	101590826
5	99146852	101588128
4	99145975	101585431
3	99145098	101582734
2	99144220	101580038
1	99143342	101577343
0	99142463	101574648
9	99141584	101571954
8	99140704	101569260
7	99139823	101566567
6	99138942	101563875
5	99138061	101561183
4	99137179	101558491
3	99136296	101555801
2	99135413	101553110
1	99134529	101550421
0	99133645	101547732

M.	Sin. 35	Tang 35
30	97639540	98532689
31	97641311	98535352
32	97643080	98538023
33	97644848	98540694
34	97646616	98543364
35	97648382	98546034
36	97650147	98548703
37	97651911	98551372
38	97653674	98554040
39	97655436	98556708
40	97657197	98559375
41	97658956	98562042
42	97660715	98564708
43	97662473	98567374
44	97664229	98570039
45	97665984	98572703
46	97667739	98575367
47	97669492	98578031
48	97671244	98580694
49	97672995	98583356
50	97674745	98586018
51	97676494	98588680
52	97678242	98591341
53	97679989	98594001
54	97681734	98596661
55	97683479	98599321
56	97685223	98601979
57	97686965	98604638
58	97688707	98607296
59	97690447	98609953
60	97692186	98612610

	Sin. 54	Tang. 54
0	99106860	10146.7320
9	99105959	101464648
8	99105057	101461976
7	99104154	101459305
6	99103251	101456635
5	99102347	101453965
4	99101443	101451296
3	99100539	101448627
2	99099633	101445959
1	99098727	101443291
0	99097821	101440624
9	99096914	101437957
8	99096007	101435291
7	99095099	101432626
6	99094190	101429960
5	99093281	101427296
4	99092371	101424632
3	99091461	101421968
2	99090550	101419305
1	99089638	101416643
0	99088726	101413981
9	99087814	101411319
8	99086901	101408658
7	99085987	101405998
6	99085073	101403338
5	99084158	101400679
4	99083243	101398020
3	99082327	101395361
2	99081411	101392703
1	99080494	101390046
0	99079576	101387389

M.	Sin.36	Tang.36
30	97743876	98692088
31	97745582	98694730
32	97747288	98697372
33	97748993	98700013
34	97750696	98702653
35	97752399	98705293
36	97754101	98707932
37	97755801	98710572
38	97757501	98713210
39	97759199	98715848
40	97760896	98718486
41	97762593	98721123
42	97764288	98723759
43	97765983	98726396
44	97767676	98729032
45	97769368	98731667
46	97771059	98734302
47	97772750	98736937
48	97774439	98739571
49	97776127	98742204
50	97777814	98744837
51	97779500	98747470
52	97781186	98750102
53	97782870	98752734
54	97784553	98755365
55	97786235	98757996
56	97787916	98760626
57	97789596	98763256
58	97791275	98765886
59	97792953	98768515
60	97794630	98771144

Sin. 53	Tang. 53
99051787	101307911
99050852	101305269
99049916	101302627
99048980	101299987
99048043	101297346
99047106	101294706
99046168	101292067
99045229	101289428
99044290	101286789
99043351	101284151
99042410	101281513
99041470	101278876
99040528	101276240
99039586	101273603
99038644	101270968
99037701	101268332
99036757	101265697
99035813	101263063
99034868	101260429
99033923	101257795
99032977	101255162
99032030	101252529
99031083	101249897
99030135	101247265
99029187	101244634
99028238	101242003
99027289	101239373
99026339	101236743
99025389	101234113
99024437	101231484
99023486	101228855

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M.	Sin. 37	Tang. 37
0	97794630	98771144
1	97796306	98773772
2	97797981	98776400
3	97799655	98779027
4	97801328	98781654
5	97803000	98784280
6	97804670	98786907
7	97806340	98789532
8	97808009	98792157
9	97809677	98794782
10	97811344	98797406
11	97813010	98800030
12	97814675	98802654
13	97816339	98805277
14	97818001	98807899
15	97819663	98810522
16	97821324	98813143
17	97822984	98815765
18	97824643	98818386
19	97826301	98821006
20	97827957	98823626
21	97829613	98826246
22	97831268	98828865
23	97832922	98831484
24	97834575	98834101
25	97836227	98836721
26	97837877	98839331
27	97839527	98841955
28	97841176	98844572
29	97842824	98847181
30	97844471	98849806

99023486	101228855
99022533	101226227
99021581	101223599
99020627	101220972
99019673	101218345
99018719	101215719
99017764	101213093
99016808	101210467
99015852	101207842
99014895	101205217
99013937	101202593
99012979	101199969
99012021	101197345
99011061	101194722
99010102	101192100
99009141	101189478
99008180	101186856
99007219	101184234
99006257	101181613
99005294	101178993
99004331	101176373
99003367	101173753
99002402	101171134
99001437	101168515
99000472	101165897
98999506	101163279
98998539	101160661
98997572	101158044
98996604	101155427
98995635	101152811
98994666	101150195

M.	Sin. 37	Tang. 37
30	97844471	98845304
31	97846117	98852420
32	97847762	98855035
33	97849406	98857650
34	97851048	98860264
35	97852690	98862878
36	97854331	98865492
37	97855971	98868105
38	97857610	98870717
39	97859248	98873330
40	97360885	98875942
41	97862521	98878553
42	97864156	98881154
43	97865790	98883775
44	97867423	98886385
45	97869055	98888995
46	97870687	98891635
47	97872317	98894214
48	97873946	98896823
49	97875574	98899431
50	97877201	98902039
51	97878827	98904647
52	97880453	98907254
53	97882077	98909861
54	97883700	98912467
55	97885322	98915073
56	97886944	98917679
57	97888564	98920284
58	97890184	98922889
59	97891802	98925494
60	97893419	98928098

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30	98994666	101150195
29	98993696	101147579
28	98992726	101144964
27	98991755	101142349
26	98990784	101139735
25	98989812	101137121
24	98988839	101134508
23	98987866	101131894
22	98986892	101129282
21	98985918	101126669
20	98984943	101124057
19	98983968	101121446
18	98982992	101118835
17	98982015	101116224
16	98981038	101113614
15	98980060	101111004
14	98979031	101108394
13	98978102	101105785
12	98977123	101103176
11	98976142	101100568
10	98975162	101097960
9	98974180	101095352
8	98973198	101092745
7	98972216	101090138
6	98971232	101087532
5	98970249	101084926
4	98969264	101082320
3	98968279	101079715
2	98967294	101077110
1	98966308	101074505
0	98965321	101071901

M.	Sin. 38	Tang. 38
0	97893419	98928098
1	97895036	98930702
2	97896651	98933305
3	97898266	98935908
4	97899880	98938511
5	97901492	98941113
6	97903104	98943715
7	97904714	98946317
8	97906324	98948918
9	97907933	98951519
10	97909541	98954119
11	97911148	98956719
12	97912753	98959315
13	97914358	98961918
14	97915962	98964517
15	97917565	98967116
16	97919167	98969714
17	97920768	96972312
18	97922368	98974909
19	97923968	98977507
20	97925566	98980103
21	97927163	98982700
22	97928759	98985296
23	97930355	98987891
24	97931949	98990487
25	97933542	98993082
26	97935135	98995677
27	97936726	98998271
28	97938317	99000865
29	97939907	99003458
30	97941495	99006052

M.	Sin 5°	Tang. 5°
60	98965321	101071901
59	98964334	101069297
58	98963346	101066694
57	98962357	101064091
56	98961363	101061488
55	98960379	101058886
54	98959388	101056284
53	98958398	101053683
52	98957406	101051081
51	98956414	101048481
50	98955421	101045880
49	98954428	101043280
48	98953434	101040680
47	98952440	101038081
46	98951445	101035482
45	98950449	101032884
44	98949453	101030285
43	98948456	101027687
42	98947459	101025090
41	98946461	101022493
40	98945462	101019896
39	98944463	101017300
38	98943463	101014704
37	98942463	101012108
36	98941462	101009512
35	98940460	101006917
34	98939458	101004323
33	98938455	101001728
32	98937452	100999134
31	98936448	100996541
30	98935443	100993948

M.	Sin. 38	Tang. 38
30	97941495	9900605?
31	97943083	9900864?
32	97944670	9901123?
33	97946256	9901382?
34	97947840	9901642?
35	97949424	9901901?
36	97951007	9902160?
37	97952590	9902419?
38	97954171	9902673?
39	97955751	9902937?
40	97957330	9903196?
41	97958908	9903455?
42	97960486	9903714?
43	97962062	9903973?
44	97963637	9904232?
45	97965212	9904492?
46	97966785	9904747?
47	97968358	9905008?
48	97969930	9905267?
49	97971501	9905525?
50	97973070	9905784?
51	97974639	9906043?
52	97976207	9906301?
53	97977774	9906560?
54	97979341	9906811?
55	97980906	9907077?
56	97982470	9907335?
57	97984033	9907594?
58	97985596	9907853?
56	97987157	9908112?
60	97988718	9908369?

Sin. 51	Tang. 5.
98935443	100993946
98934438	100991355
98933432	100988762
98932426	100986170
98931419	100983578
98930411	100980987
98929403	100978395
98928394	100975804
98927385	100973214
98926375	100970624
98925364	100968034
98924353	100965445
98923341	100962855
98922329	100960267
98921316	100957678
98920302	100955090
98919288	100952502
98918273	100949915
98917258	100947328
98916242	100944741
98915225	100942154
98914208	100939568
98913190	100936982
98912172	100934397
98911153	100931812
98910133	100929227
98909113	100926642
98908092	100924058
98907070	100921474
98906048	100918891
98905026	100916307

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M.	Sin. 39	Tang. 39
0	97988718	99083693
1	97990277	99086217
2	97991836	99088815
3	97993394	99091451
4	97994950	99094020
5	97996506	99096603
6	97998061	99099184
7	97999615	99101755
8	98001168	99104345
9	98002721	99106927
10	98004272	99109505
11	98005822	99112090
12	98007372	99114660
13	98008920	99117240
14	98010468	99119820
15	98012015	99122440
16	98013560	99124980
17	98015105	99127570
18	98016649	99130150
19	98018192	99132750
20	98019734	99135350
21	98021275	99137960
22	98022815	99140490
23	98024355	99143050
24	98025893	99145680
25	98027431	99148250
26	98028967	99150850
27	98030503	99153400
28	98032038	99155600
29	98033572	99158100
30	98035105	99160600

M.	Sin. 50	Tang. 50
60	98905026	100916307
59	98904002	100913724
58	98902978	100911142
57	98901954	100908560
56	98900929	100905978
55	98899903	100903396
54	98898877	100900815
53	98897850	100898234
52	98896822	100895653
51	98895794	100893073
50	98894765	100890493
49	98893736	100887913
48	98892706	100885333
47	98891675	100882754
46	98890644	100880175
45	98889612	100877597
44	98888579	100875019
43	98887545	100872441
42	98886513	100869863
41	98885478	100867286
40	98884443	100864709
39	98883406	100862132
38	98882371	100859556
37	98881335	100856980
36	98880297	100854404
35	98879260	100851828
34	98878221	100849253
33	98877182	100846678
32	98876143	100844103
31	98875103	100841529
30	98874063	100838955

M.	Sin. 39	Tang. 39
30	98035105	99161044
31	98036637	99163618
32	98038168	99166193
33	98039698	99168765
34	98041228	99171338
35	98042756	99173910
36	98044284	99176483
37	98045810	99179055
38	98047336	99181626
39	98048861	99184198
40	98050385	99186765
41	98051908	99189340
42	98053430	99191911
43	98054951	99194481
44	98056471	99197051
45	98057991	99199621
46	98059509	99202190
47	98061027	99204760
48	98062544	99207328
49	98064060	99209897
50	98065575	99212466
51	98067088	99215034
52	98068602	99217602
53	98070114	99220169
54	98071625	99222737
55	98073136	99225304
56	98074645	99227872
57	98076154	99230437
58	98077662	99233003
59	98079169	99235569
60	98080675	99238135

M.	Sin 50	Tang. 50
30	98874050	100838955
29	98873018	100836361
28	98871976	100833808
27	98870933	100831234
26	98869890	100828661
25	98868845	100826039
24	98867801	100823517
23	98866755	100820244
22	98865709	100818373
21	98864663	100815807
20	98863615	100813230
19	98862567	100810659
18	98861519	100808089
17	98860470	100805518
16	98859420	100802948
15	98858370	100800378
14	98857319	100797809
13	98856267	100795240
12	98855215	100792671
11	98854162	100790102
10	98853108	100787533
9	98852054	100784965
8	98851000	100782397
7	98849944	100779830
6	98848888	100777263
5	98847832	100774695
4	98846774	100772129
3	98845717	100769562
2	98844658	100766996
1	98843599	100764430
0	98842539	100761864

M.	Sin. 40	Tang. 40
0	98080675	99238135
1	98082180	99240700
2	98083684	99243266
3	98085187	99245831
4	98086690	99248395
5	98088191	99250960
6	98089692	99253524
7	98091192	99256088
8	98092691	99258651
9	98094189	99261215
10	98095686	99263778
11	98097182	99266341
12	98098677	99268903
13	98100172	99271466
14	98101665	99274028
15	98103158	99276590
16	98104650	99279152
17	98106141	99281713
18	98107631	99284274
19	98109120	99286835
20	98110609	99289396
21	98112096	99291956
22	98113583	99294516
23	98115068	99297076
24	98116553	99299636
25	98118037	99302195
26	98119520	99304754
27	98121002	99307313
28	98122484	99309872
29	98123964	99312430
30	98125444	99314989

	Sin 49	Tang.49
30	98842539	100761864
9	98841479	100759299
8	98840418	100756734
7	98839356	100754169
6	98838294	100751604
5	98837231	100749039
4	98836168	100746475
3	98835104	100743911
2	98834039	100741348
1	98832973	100738784
0	98831907	100736221
9	98830841	100733658
8	98829774	100731096
7	98828706	100728533
6	98827637	100725971
5	98826568	100723409
4	98825498	100720848
3	98824428	100718286
2	98823357	100715725
1	98822285	100713164
0	98821213	100710604
9	98820140	100708043
8	98819066	100705483
7	98817992	100702923
6	98816917	100700364
5	98815842	100697804
4	98814766	100695245
3	98813689	100692686
2	98812611	100690127
1	98811533	100687569
0	98810455	100685011

M.	Sin. 40	Tang. 40
30	98125444	99314989
31	98126922	99317547
32	98128400	99320104
33	98129877	99322662
34	98131353	99325219
35	98132829	99327776
36	98134303	99330333
37	98135776	99332890
38	98137249	99335446
39	98138721	99338002
40	98140192	99340558
41	98141662	99343114
42	98143131	99345669
43	98144599	99348225
44	98146067	99350780
45	98147533	99353334
46	98148999	99355889
47	98150464	99358443
48	98151928	99360997
49	98153391	99363552
50	98154853	99366105
51	98156315	99368659
52	98157775	99371212
53	98159235	99373765
54	98160694	99376318
55	98162152	99378870
56	98163609	99381423
57	98165065	99383975
58	98166521	99386527
59	98167975	99389079
60	98169429	99391630

M.	Sin. 49	Tang. 49
30	98810455	100685011
29	98809375	100682452
28	98808295	100679895
27	98807215	100677337
26	98806134	100674780
25	98805052	100672223
24	98803969	100669666
23	98802886	100667109
22	98801803	100664553
21	98800718	100661997
20	98799633	100659441
19	98798547	100656885
18	98797461	100654330
17	98796374	100651775
16	98795287	100649220
15	98794199	100646665
14	98793110	100644110
13	98792020	100641556
12	98790930	100639002
11	98789839	100636448
10	98788748	100633894
9	98787656	100631341
8	98786563	100628787
7	98785470	100626234
6	98784376	100623682
5	98783281	100621129
4	98782186	100618576
3	98781090	100616024
2	98779993	100613472
1	98778896	100610921
0	98777798	100608369

M.	Sin. 41	Tang. 41
0	98169429	99391650
1	98170882	99394182
2	98172334	99396733
3	98173785	99399284
4	98175235	99401834
5	98176684	99404385
6	98178133	99406935
7	98179581	99409485
8	98181028	99412035
9	98182474	99414585
10	98183919	99417134
11	98185363	99419684
12	98186807	99422233
13	98188249	99424782
14	98189691	99427331
15	98191132	99429879
16	98192572	99432427
17	98194012	99434976
18	98195450	99437523
19	98196888	99440071
20	98198324	99442619
21	98199760	99445166
22	98201195	99447713
23	98202629	99450260
24	98204063	99452807
25	98205495	99455354
26	98206927	99457900
27	98208358	99460446
28	98209788	99462992
29	98211217	99465538
30	98212645	99468084

M.	Sin 48	Tang. 48
60	98777798	100608369
59	98776700	100605818
58	98775601	100603266
57	98774501	100600716
56	98773400	100598165
55	98772299	100595614
54	98771198	100593064
53	98770095	100590514
52	98768992	100587964
51	98767888	100585414
50	98766784	100582865
49	98765679	100580316
48	98764574	100577766
47	98763467	100575217
46	98762360	100572669
45	98761253	100570120
44	98760145	100567572
43	98759036	100565024
42	98757926	100562476
41	98756816	100559928
40	98755705	100557380
39	98754594	100554833
38	98753481	100552286
37	98752369	100549739
36	98751255	100547192
35	98750141	100544645
34	98749027	100542099
33	98747911	100539553
32	98746795	100537007
31	98745678	100534468
30	98744561	100531985

M.	Sin. 41	Tang. 41
30	9821264 5	9946808 4
31	9821407 3	9947062 9
32	9821550 0	9947317 5
33	9821692 5	9947572 0
34	9821835 0	9947826 5
35	9821977 4	9948081 0
36	9822119 8	9948335 4
37	9822262 0	9948589 9
38	9822404 2	9948844 3
39	9822546 3	9949098 7
40	9822688 3	9949353 1
41	9822830 2	9949607 5
42	9822972 0	9949861 8
43	9823113 8	9950116 1
44	9823255 4	9950370 5
45	9823397 0	9950624 8
46	9823538 5	9950879 1
47	9823679 9	9951133 4
48	9823821 3	9951387 0
49	9823962 5	9951641 8
50	9824103 7	9951896 1
51	9824244 8	9952150 3
52	9824385 8	9952404 3
53	9824526 7	9952658 6
54	9824667 5	9952912 8
55	9824808 3	9953166 9
56	9824949 0	9953421 1
57	9825089 6	9953675 2
58	9825230 1	9953929 3
59	9825370 5	9954183 3
60	9825510 9	9954437 4

M.	Sin.48	Tang.48
30	98744561	100531915
29	98743443	100529370
28	98742324	100526824
27	98741205	100524279
26	98740085	100521734
25	98738964	100519190
24	98737843	100516645
23	98736721	100514101
22	98735599	100511556
21	98734475	100509012
20	98733351	100506468
19	98732227	100503925
18	98731102	100501381
17	98729976	100498837
16	98728849	100496294
15	98727722	100493751
14	98726594	100491208
13	98725465	100488666
12	98724336	100486123
11	98723206	100483581
10	98722076	100481039
9	98720945	100478496
8	98719813	100475955
7	98718680	100473413
6	98717547	100470871
5	98716413	100478330
4	98715279	100465789
3	98714144	100463247
2	98713008	100460707
1	98711871	100458166
0	98710734	100455625

M.	Sin. 42	Tang. 42
0	98255109	99544374
1	98256511	99546914
2	98257913	99549455
3	98259314	99551995
4	98260714	99554535
5	98262114	99557075
6	98263512	99559615
7	98264910	99562154
8	98266307	99564695
9	98267703	99567235
10	98269098	99569772
11	98270493	99572311
12	98271886	99574850
13	98273279	99577388
14	98274671	99579927
15	98276062	99582465
16	98277453	99585003
17	98278842	99587541
18	98280231	99590079
19	98281619	99592617
20	98283006	99595155
21	98284392	99597692
22	98285778	99600230
23	98287163	99602767
24	98288547	99605304
25	98289930	99607841
26	98291312	99610378
27	98292693	99612914
28	98294074	99615451
29	98295454	99617987
30	98296833	99620524

M	Sin. 47	Ta
59	98710734	10045
58	98709596	10045306
58	98708458	10045054
57	98707319	10044800+
56	98706179	10044546+
55	98705038	10044292+
54	98703897	10044038+
53	98702755	10043784+
52	98701613	10043530+
51	98700470	10043276+
50	98699326	10043022+
49	98698181	10042768+
48	98697036	10042515+
47	98695890	10042261+
46	98694744	10042007+
45	98693597	10041753+
44	98692449	10041499+
43	98691300	10041245+
42	98690151	10040992+
41	98689001	10040738+
40	98687851	10040484+
39		10040230+
38		10039976+
37		10039723+
36		10039469+
35		10039215+
		10038896+
		10038708+
		10038454+
		10038201+
		10037771+

M.	Sin 42	Tang 42
30	9829683 3	9962052 4
31	9829821 1	9962306 1
32	9829958 9	9962559 7
33	9830096 5	9962813 3
34	9830234 1	9963066 8
35	9830371 6	9963320 4
36	9830509 1	9963574 0
37	9830646 4	9963827 5
38	9830783 7	9964081 0
39	9830920 8	9964334 6
40	9831057 9	9964588 1
41	9831195 0	9964841 6
42	9831331 9	9965095 0
43	9831468 8	9965348 5
44	9831605 6	9965602 0
45	9831742 3	9965855 4
46	9831878 9	9966108 9
47	9832015 4	9966361 3
48	9832151 9	9966615 7
49	9832288 3	9966869 1
50	9832424 6	9967121 5
51	9832560 8	9967375 9
52	9832697 0	9967629 3
53	9832833 0	9967882 6
54	9832969 0	9968136 0
55	9833104 9	9968389 3
56	9833240 8	9968642 6
57	9833376 5	9968895 9
58	9833512 2	9969149 1
59	9833647 8	9969402 6
60	9833783 3	9969655 5

M.	Sin. 47	Tang. 47
30	98676308	100379475
29	98675150	100376939
28	98673992	100374403
27	98672833	100371867
26	98671673	100369331
25	98670512	100366795
24	98669351	100364260
23	98668189	100361724
22	98667026	100359189
21	98665863	100356654
20	98664698	100354119
19	98663534	100351584
18	98662368	100349049
17	98661202	100346514
16	98660036	100343979
15	98658868	100341445
14	98657700	100338910
13	98656531	100336376
12	98655362	100333842
11	98654191	100331308
10	98653021	100328774
9	98651849	100326240
8	98650677	100323707
7	98649504	100321173
6	98648330	100318640
5	98647156	100316106
4	98645981	100313573
3	98644805	100311040
2	98643629	100308507
1	98642452	100305974
0	98641274	300303441

S

M.	Sin. 43	Tang.
0	98337833	9269693
1	98335287	9969699
2	98340541	9970149
3	98341894	9970439
4	98343216	9970669
5	98344597	9970903
6	98345947	9971119
7	98347297	9971429
8	98348646	9971639
9	98349992	9971929
10	98351341	9972169
11	98352687	9972449
12	98354033	9972699
13	98355378	9972999
14	98356722	9973209
15	98358065	9973459
16	98359408	9973759
17	98360750	9973999
18	98362091	9974219
19	98363431	9974469
20	98364770	9974719
21	98366109	9974979
22	98367447	9975229
23	98368784	9975449
24	98370120	9975709
25	98371456	9975949
26	98372790	9976239
27	98374124	9976409
28	98375457	9976759
29	98376790	9976999
30	98378122	9977249

	Sin. 46	Tang 46
60	98671274	100303441
59	98640096	100300928
58	98638917	100298376
57	98637737	100295843
56	98636556	100293310
55	98635375	100290778
54	98634194	100288246
53	98633011	100285714
52	98631828	100283182
51	98630644	100280650
50	98629459	100278118
49	98628274	100275586
48	98627088	100273055
47	98625901	100270523
46	98624714	100267991
45	98623526	100265460
44	98622337	100262929
43	98621148	100260397
42	98619958	100257866
41	98618767	100255335
40	98617575	100252804
39	98616383	100250274
38	98615190	100247743
37	98613998	100245212
36	98612802	100242682
35	98611607	100240151
34	98610411	100237621
33	98609215	100235090
32	98608018	100232560
31	98606820	100230030
30	98605622	100227500

M.	Sin. 43	Tang. 43
30	9 8378122	99.772502
31	9 8379453	99775030
32	9 8380783	99777560
33	9 8382112	99780090
34	9 8383441	9978261;
35	9 8384768	99785149
36	9 8386095	99787679
37	9 8387421	99790203
38	9 8388747	99792738
39	9 8390072	99795267
40	9 8391396	99797797
41	9 8392719	9980032;
42	9 8394041	99802855
43	9 8395363	99805385
44	9 8396683	99807914
45	9 8398003	99810445
46	9 8399323	9981197;
47	9 8400641	9981550;
48	9 8401959	99818030
49	9 8403276	9982;558
50	9 8404592	99823087
51	9 8405908	99825616
52	5 8407222	9982914;
53	9 8408536	99830677
54	9 8409849	9983320;
55	9 8411162	9983573;
56	9 8412473	9983825;
57	9 8413784	9984076;
58	9 8415094	99843319
59	9 8416404	99845824
60	9 8417712	9984837;

M.	Sin. 46	Tang. 46
30	98605622	100227500
29	98604423	100224970
28	98603223	100222440
27	98602022	100219910
26	98600821	100217380
25	98599619	100214850
24	98598416	100212320
23	98597213	100209791
22	98596009	100207261
21	98594804	100204732
20	98593598	100202202
19	98592392	100199673
18	98591185	100197144
17	98589978	100194615
16	98588769	100192086
15	98587560	100189557
14	98586351	100187027
13	98585140	100184498
12	98583929	100181970
11	98582717	100179441
10	98581505	100176912
9	98580291	100174383
8	98579077	100171855
7	98577863	100169326
6	98576648	100166798
5	98575432	100164269
4	98574215	100161741
3	98572997	100159212
2	98571779	100156684
1	98570560	100154156
0	98569341	100151628

M.	Sin. 44	Tang 44
0	9841771 2	9984 8 ? ?
1	9841902 0	9985020 ?
2	9842032 7	9985342 ?
3	9842163 4	9985595 ?
4	9842293 2	9985848 ?
5	9842421 4	9986101 ?
6	9842554 8	9986354 ?
7	9842685 2	9986606 ?
8	9842815 4	9986859 ?
9	9842945 5	9987111 ?
10	9843075 6	9987363 ?
11	9843205 7	9987617 ?
12	9843335 5	9987870 ?
13	9843465 5	9988123 ?
14	9843595 3	9988375 ?
15	9843725 0	9988628 ?
16	9843854 6	9988881 ?
17	9843984 2	9989134 4
18	9844113 7	9989386 ?
19	9844243 1	9989639 8
20	9844372 5	9989892 ?
21	9844501 7	9990145 ?
22	9844630 9	9990397 ?
23	9844760 0	9990650 ?
24	9844889 1	9990906 ?
25	9845018 1	9991156 ?
26	9845146 9	9991408 ?
27	9845275 8	9991661 6
28	9845404 5	9991914 ?
29	9845533 2	9992167 0
30	9845666 8	9992419 ?

	Sin. 45	Tang. 45
	98569341	100151628
58	98568129	100149100
58	98566899	100146572
57	98565677	100144043
56	98564455	100141515
55	98563232	100138987
54	98562008	100136459
53	98560783	100133932
52	98559558	100131404
51	98558332	100128876
50	98557105	100126349
49	98555873	100123821
48	98554650	100121293
47	98553421	100118766
46	98552191	100116238
45	98550961	100113711
44	98549730	100111183
43	98548498	100108656
42	98547266	100106128
41	98546033	100103601
40	98544799	100101074
39	98543564	100098546
38	98542329	100096019
37	98541093	100093492
36	98539856	100090965
35	98538618	100088437
34	98537380	100085910
33	98536141	100083383
32	98534902	100080856
31	98533661	100078329
30	98532420	100075802

M.	Sin. 44	Tang 44
30	98456618	99924195
31	98457903	99926724
32	98459287	99929251
33	98460473	99931778
34	98461754	99934305
35	98463036	99936832
36	98464317	99939359
37	98465598	99941886
38	98466878	99944412
39	98468157	99946939
40	98469436	99949466
41	98470713	99951991
42	98471991	99954520
43	98473267	99957047
44	98474542	99959573
45	98475817	99962100
46	98477091	99964627
47	98478364	99967153
48	98479637	99969680
49	98480909	99972207
50	98482180	99974733
51	98483450	99977260
52	98484720	99979787
53	98485988	99982313
54	98487257	99984840
55	98488524	99987367
56	98489790	99989893
57	98491056	99992420
58	98492321	99994946
59	98493586	99997473
60	98494850	10000000

30

	Sin. 45	Tang. 45
30	98532420	100075802
29	98531178	100073275
28	98529936	100070748
27	98528693	100068221
26	98527449	100065694
25	98526204	100063167
24	98524958	100060641
23	98523712	100058114
22	98522465	100055587
21	98521218	100053060
20	98519969	100050533
19	98518720	100048006
18	98517471	100045480
17	98516220	100042953
16	98514969	100040426
15	98513717	100037899
14	98512464	100035373
13	98511211	100032846
12	98509957	100030319
11	98508702	100027793
10	98507446	100025266
9	98506190	100022739
8	98504933	100020212
7	98503675	100017686
6	98502416	100015159
5	98501157	100012633
4	98499897	100010106
3	98498636	100007579
2	98497375	100005053
1	98496113	100002526
0	98494850	100000000

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